RECORD SMASHED

Dayton, Ohio—All shipment records of Frigidaire Corporation went by the board on April 30, when 214 carloads of electric refrigerators left the plants consigned to 46 states and five foreign countries. The best previous single day's record was for May 31, 1929, when 121 carloads were shipped.

The shipping department, numbering 170 men, worked at full capacity to load the constantly shifted line of cars. The factory tracks are constructed so that five loading platforms can be used simultaneously. Sixty cars can be loaded at one time. One switch engine and train crew was assigned to the Frigidaire factory for the job of moving loaded cars and supplying empties. Both sides of the half mile long Moraine plant were flanked by freight cars, and the loading platform tracks at one end of the plant always were full of cars.

This new all-time shipping record was established less than two weeks after the company began a million dollar newspaper advertising campaign to support the spring sales program, and preceded by one day the showing of the new Frigidaire "Multi-Cold," with its special provision for keeping quick-frozen foods and other refrigerated products.

E. G. Biechler, president and general manager, pointed out that the increased advertising appropriation was made following a record-breaking first quarter and a 100 per cent increase in showroom visitors.

WATER CHILLER

Mt. Clemens, Mich.—The ability to conveniently draw chilled water in quantities from a handy tap—as is possible with the Copeland "Water Chiller"—is proving an outstanding sales factor for his company's products, according to W. D. McElhinny, vice-president in charge of sales of Copeland Products, Inc.

Returning from a sales-school tour of the country, during which he traversed the entire southern section of the United States, Vice-President McElhinny reports those regions literally lining up to test the exclusive Copeland feature, the Water Chiller.

"The Water Chiller is attracting enormous attention in the New Orleans territory, in Texas, Oklahoma and in the southeast sections," declares Mr. McElhinny. "Everywhere distributors and dealers report much interest in this on the part of the public. In the hot weather districts, where iced drinking water is not easy to get or make, this feature, evidently long wanted by the public, is receiving a great welcome.

"Copeland's 1930 line of refrigerators with the Water Chiller, easily accessible Coldial, locked mechanism cabinet and lower prices, is meeting with great favor everywhere. In every city where I held sales schools, these were attended by larger numbers of distributors, dealers and salesmen, showing greater enthusiasm than in previous years—the distributors reporting dealers taking stocks more readily and in larger quantities than formerly, and units passing quickly from dealers' to users' hands; dealers reporting their chief trouble more often one of delivery rather than of sales, and the salesmen reporting an estimated 30% decrease in sales resistance, attributable to the exclusive features of Copeland's 1930 line."

Carload After Carload

Busy Moment on the Frigidaire Loading Platform at Dayton.

CHERRIES

(Concluded from Page 1, Column 1)

Much of the work at Sodus has been done by P. R. Sucher, who also is connected with B. J. Case, a Sodus packer. Mr. Sucher is much interested in the future possibilities of frozen fruit, and is following the new developments closely. The refrigerating equipment at Sodus was manufactured by the Frick Company of Waynesboro, Pennsylvania.

The freezing of cherries at Sodus is typical of the work that is being done in various parts of the country in the preparation and preservation of foods by refrigeration.

Fertile Field

THE Emerson B. Knight survey of Seattle, just completed, shows that the Northwestern metropolis spends more money per capita for radios, refrigerators and automobiles than any other leading city of the country.

Sixty-eight per cent of Seattle residents are in the middle buying power class, 7 per cent in the high group, and about 24 per cent in the low class.—*Advertising Age.*

CUDAHY

(Concluded from Page 1, Column 3)

when cooked will "eat" just as well as fresh meat.

"Packers now experimenting or preparing these meats in this new manner have, of course, adequate facilities, and the next step will be for the retailer or distributor to equip himself with the proper facilities, such as refrigerated display cases. In fact, this is being done already by many progressive merchants who realize the economy and advantage of selling package meats."

EDUCATOR

Praises Quick Frozen Foods

WHILE the strict rules of the School Department in Springfield, Mass., have been interpreted as prohibiting demonstrations of the foods in school buildings, members of the department have taken considerable interest in the Birdseye foods which have attracted so much attention in the New England city. Many of the teachers have bought frosted foods and enjoyed them.

"I think it is a wonderful idea," said Miss Agnes H. Craig, head of the department of home economics, when asked about the quick-frozen foods. "I believe it is sound, and the plan promises to be revolutionary, I should say. The crux of the system lies, I should say, in the method by which the foods are converted to the frozen state. By being packed before freezing, when they are flexible, a much more compact package is obtained, with resultant saving of storage space in transport. This is an economic advantage. The next thing, it seems, is to provide an improved type of home refrigerator for keeping the frozen foods after they have been taken from the stores."

RURAL TESTS

A THREE-YEAR test of electric refrigeration on six farms, during which detailed records of performance and cost were kept, indicates not only that electric refrigeration is more efficient for the farmer, but less costly than ice, says W. T. Ackerman, rural electric specialist, who made the survey.

Some of the facts brought out are as follows:

"The general results obtained were much superior to the ice method, and no adverse criticism of any consequence was noted.

"Two methods of using refrigeration were included: (1) Individual refrigerators for the house, (2) combined with dairy cold storage.

"Both self-contained and separated types of units were employed.

"Both insulated and uninsulated cabinets were used.

"Breakdowns and current interruptions were very limited.

"The refrigerators varied in size from 5.5 cubic feet of food storage space to 30 cubic feet.

"The average size of refrigerators was 27 cubic feet total contents and 10.5 cubic feet food storage space.

"Current consumption on the five standard types averaged 41 kilowatt-hours per month. The average maximum and minimum was 67 kilowatt-hours and 13 kilowatt-hours, respectively. The highest individual month was 100 kilowatt-hours.

"The average annual cost of operation was $20.97, exclusive of the combination method.

"Total amount costs for using ice averaged $41.63 per year, with extremes of $22.86 and $64.00.

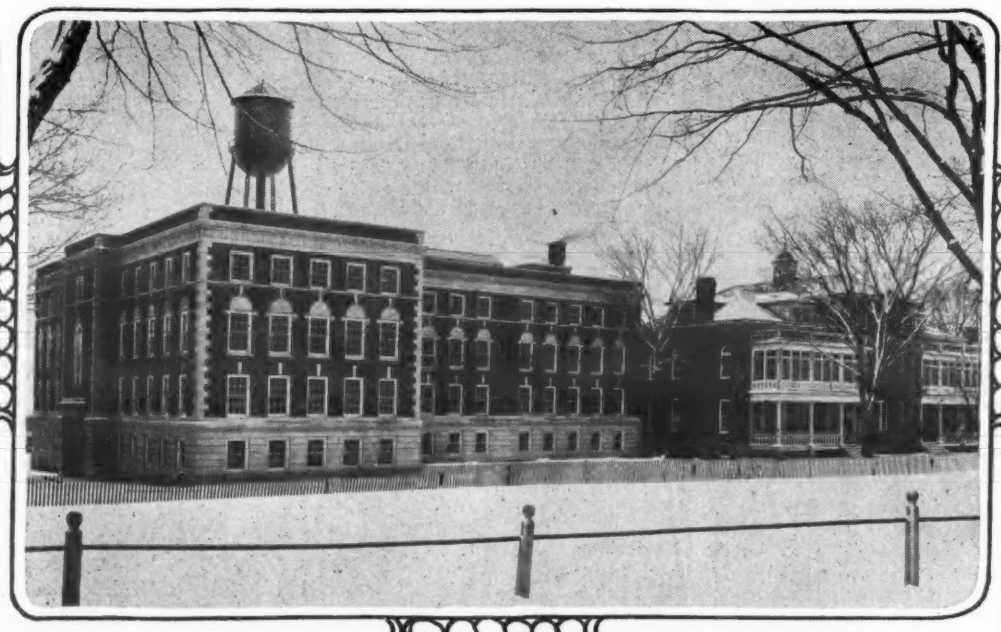
"Distinctly superior results were obtained from the electric method than with ice, from the standpoint of quality of refrigeration."

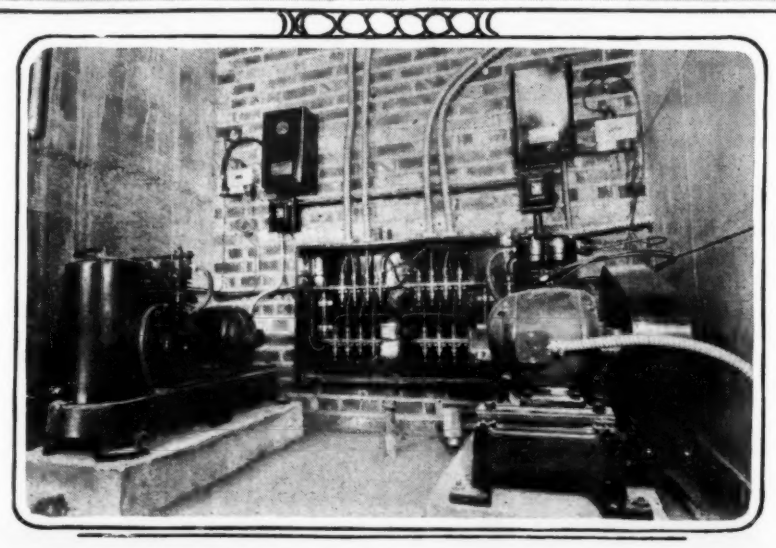
COOLING GRAIN

FRUITS, vegetables, nuts, eggs and hard-chilled lamb chops may have to move over to make way for grain in the refrigerating system. A new invention patented in France is designed to refrigerate or cool grain in the elevators of the grain milling companies, in order to lower the moisture content of the stock by the prevention of condensation of part of the moisture from the stock. Flour milled under the equipment provided by this new patent is expected to be higher in baking qualities since it will not have been subjected to the heating of the flour commonly caused by ordinary milling methods, which tend to lower, to some extent, the quality of the gluten in the flour.

Grainmen of France are no doubt looking forward to the day when refrigerators will be installed in each of their elevators.—*Food Distribution.*

Institution Favors Modern Refrigeration Methods





KELVINATOR-SYRACUSE recently made a large installation in the new Onondaga Hospital and Home, at Syracuse, N. Y., said to be one of the foremost institutions of its kind in the Empire State and the best equipped. The Hospital authorities express great satisfaction with the installation.

Equipment placed by Kelvinator is as follows:

Model 4048 Seegar refrigerator, located in the kitchen, refrigerated by Model 4886 coil.

Two Model WR 40 Kelvinator condensing units with the valve control panel so arranged as to permit the operation of all, or any, of the equipment by either condensing unit in an emergency.

Model WF 40 condensing unit, located in basement, used to operate the three water coolers. Equipped with Model 4200 Kelvinator header.

Two cadaver mortuary cooler, cooled by two 4884 coils. This cabinet was built for Kelvinator-Syracuse, Inc., by Jewett Refrigerator Co., of Buffalo.

Walk-in cooler, one section of which is used for meat storage, the other for vegetables, etc.

Ice maker which has a daily capacity of four 25-lb. cakes of ice.

In Two Parts—Part 1

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
VOL. 4, NO. 19, SERIAL NO. 95

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DETROIT, MICHIGAN, MAY 21, 1930

Entered as second class matter Aug. 1, 1927, at Detroit, Mich.

FIFTEEN CENTS PER COPY
TWO DOLLARS PER YEAR

ORDINANCES PASSED BY TWO MORE CITIES ALLOWING MULTIPLES

Omaha and New Haven Codes Now in Effect

TWO more cities have passed ordinances governing the installation and maintenance of refrigeration systems in their respective territories. The two latest cities to promulgate codes are New Haven, Conn., and Omaha, Nebr.

Both, the New Haven and Omaha codes provide that systems with more than pounds capacity and systems supplying two or more evaporators and using seamless metal tubing for refrigerant lines shall have all tubing, except between the compressor and the nearest riser box or manifold installed in iron pipe or other metal enclosures, with suitable metal outlet boxes for manifolds and for all valves except those at the evaporators. Flexible metal enclosures may be used at bends and terminals if not exceeding six feet in length and rigidly fastened to connecting pipe or valve boxes. Each run of pipe shall be sealed or plugged at each junction inlet with a material not affected by moisture or the temperature of the line.

Tests, both of the codes state, must be made of the above mentioned system in the presence of the authority enforcing the code before the system can be put into operation. Tests shall include a vacuum test of the complete piping system.

No provisions are included in either of the codes for the addition of a warning agent or detector gas to a refrigerant that is not readily apparent to a human sense.

The Omaha and New Haven codes are very similar in their structure, as far as they go. Regulations in both regarding location of system, tubing, piping, machinery room, service connections and pressures are quite similiar with only a word or two being changed here and there in the paragraphs. However, the Omaha code makes no provisions for the systems already in operation, while New Haven has adopted a set of regulations to which all existing refrigerating systems containing one hundred or more pounds of refrigerant now installed must conform. These provisions have to do with the remote control box, relief valves, discharge tank, rupture members, fire department connections and stop valves.

Both of the codes have been under consideration for some time and the regulations as passed by the City Councils are published in complete form elsewhere in this issue.

MAY PRODUCTION RECORD FORECAST BY COPELAND

Mt. Clemens, Mich.—Copeland Products, Inc., experienced a most satisfactory sales volume during April," according to statement by Louis Ruthenburg, president. "Sales for the first quarter of 1930 were 140% of those for the same period in 1929. May production undoubtedly will break all previous Copeland records. The volume of unfilled orders on hand is the greatest in our history, and current orders indicate that sales are being well sustained in all parts of the country.

"While this volume indicates the enthusiastic acceptance of Copeland's new and exclusive features, among which are the Water Chiller, the Coldial, and beautiful cabinets with locked compartments for mechanical units, our commercial business also shows substantial and satisfactory growth. A record year was forecast at the time of our sales convention in January, and we are well on the way toward fulfillment of that prophecy."

Hundreds of Copeland distributors and dealers are reported as in attendance at the sales schools being held throughout the West during May by W. D. McElhinny, vice-president in charge of sales. To date these schools have been held in Denver, May 6-7; Salt Lake City, May 8-9, and Los Angeles, May 14-15. Other meetings will be held in San Francisco May 21-22, and in Seattle, May 26-27.

Vice-President McElhinny reports sales of Copeland products in all sections of the country at levels far above those in the corresponding period of any previous year. "From all indications I see no reason why this high rate will not continue. Business throughout the country is undoubtedly improving and the de-

(*Concluded on Page 9, Column 2*)

CHICAGO COUNCIL STUDIES CODES

Chicago, Ill.—An executive session of the Committee on Public Health of the Chicago City Council scheduled for May 22nd will take up, among other matters, two drafts of safety codes submitted to the committee by Alderman John A. Massen. These drafts were submitted on May 7th at an open meeting attended by various interests concerned in the code situation. Dr. Arnold L. Kegel was present at the meeting and criticised the delay in formulating a safety measure.

Alderman Massen writes that his two drafts were accompanied by a statement to the effect that these codes were submitted as a basis for discussion at the meeting to be held on May 22nd. The A. S. R. E. Code came in for considerable discussion at the open meeting, and objections to it in its present form were voiced by local manufacturers. It is understood that since that time some modifications have been suggested that may prove acceptable.

TAYLOR LEAVING NORGE

Detroit, Mich.—A. M. Taylor, assistant general sales manager of Norge Corporation, here, has placed his resignation before the management for acceptance. His resignation, expected to take effect June 1, comes as a surprise to refrigeration circles, because of the quick success which has been won by the 1930 Norge line.

Last year, Mr. Taylor was with the United States Rubber Co., and prior to that with Copeland Products, Inc., in sales and advertising capacities.

Servel Service School

Servicemen from the field enjoy training in Servel's new school. (See story on page 10.)

BUREAU OF MINES TESTS MIDGLEY'S REFRIGERANT

Washington, D. C.—The Bureau of Mines has been conducting investigations into the toxicity of dichloro-difluoro methane (refrigerant introduced by Thomas Midgley, Jr., at Atlanta recently) which promises to contribute greatly toward safety in automatic refrigeration. This is non-inflammable and practically non-toxic.

In its experiments at the Pittsburgh station the Bureau has found that dogs, monkeys, and guinea pigs suffer no deleterious effects after being exposed to air containing as much as 20 per cent of this vapor for 7 to 8 hours daily over a period of several weeks. Each day during the exposure the animal subjects appeared to experience sensations of alcoholic intoxication, but they became normal in a minute or two after the exposure and ate heartily. This sensation was experienced, also, by persons who breathed the gas. They also recovered promptly without subsequent nausea or headache.

"The exceedingly high concentrations used in these experiments would be practically unattainable even in small kitchens in homes," the Bureau states. "Such atmospheres would be 4½ times as heavy as air and would flow away like water. The amount of dichlorodifluoro methane in air that would be required to cause death after several hours' exposure is about 300 to 500 times greater than the least toxic of the present day refrigerants. Lethal concentrations for short exposures, say 30 minutes, are not obtainable until enough of the vapor has been added to the air to dilute the oxygen to a concentration that will not support life."

The Bureau observes that in addition to the use of dichloro-difluoro methane in ordinary commercial and domestic refrigeration, this compound has possibility of wide use in cooling air for public buildings, perhaps in the near future for cooling the air of homes, and for cooling and conditioning the air of deep mines where earth temperatures prevent the deeper operations necessary to follow the ore vein.

There is a detailed discussion of this subject in Report of Investigations 3013, "Toxicity of Dichloro-Difluoro Methane: A New Refrigerant," by R. R. Sayers, W. P. Yant, John Chornyak, and H. W. Shoaf, which is now in print and available through the United States Bureau of Mines, Department of Commerce, Washington, D. C.

ROESSLER & HASSLACHER IN MERGER WITH DUPONT

New York, N. Y.—The stockholders of the Roessler & Hasslacher Chemical Company have ratified the action of their directors in merging with the E. I. DuPont de Nemours Co. Henceforth it will operate as a division of the Du-pont Company and will be known as the Roessler & Hasslacher Corp. of Delaware.

Roessler & Hasslacher are manufacturers of methyl chloride under the trade name Artic. A short time ago, this company announced a new product, Artic A, which is methyl chloride containing one per cent of acrolein.

PEERLESS CONCENTRATING ON RESTAURANT BUSINESS

Chicago, Ill.—"Eliminate the summer slump in the restaurant business by using refrigerated, de-humidified air to awaken appetites," is the slogan of the intensive campaign launched by the Peerless Ice Machine Company, 515 W. 35th St., for their new product, the Peerless air cooling fan. This new fan, which first condenses the humidity in the air drawn in through one side and then propels the cool dry breeze through the other, is built in four different types and is practical for cooling the air in drug stores, candy stores, beauty parlors, offices and other establishments and institutions. It is felt by the Peerless company that present production plans will be adequate to fill only the demands of restaurant owners, and this type of business will be sought to start.

The Peerless fan will deliver a cool,

(*Concluded on Page 9, Column 3*)

UTILITY MEN READY FOR TREK TO BIG CONVENTION

San Francisco, Calif.—Delegates to the fifty-third annual convention of the National Electric Light Association which convenes here during the week of June 16-20 will be offered a well-rounded-out business program.

The convention is expected to have by far the largest attendance of any N.E.L.A. convention yet held on the Pacific Coast. Both hotel and transportation reservations have been very heavy; in fact the capacity of several of the special trains to start from the East has been under reservation for some time, and extra sections of some of the trains will be necessary.

The program will be well diversified in that it will deal with specific problems of the several branches and departments of the industry as well as with the more general questions affecting the industry as a whole. Not only will there be talks by many of the industry's own outstanding men, but a number of leaders in other fields have accepted invitations to address the convention and thus present outside points of view that are certain to be of interest and value.

Four general business sessions have been arranged on the program, one each morning starting with Tuesday, June 17. The Accounting (Wednesday), Commercial (Thursday), and Public Relation (Friday) sessions will be held in the afternoons. All sessions will be held in the Civic Auditorium. The seating capacity of the main auditorium is estimated at 10,000 people.

San Francisco is to be put in gala attire for the convention, both by day and by night.

Plans are being made to care for an expected attendance of about 4,000 with ample allowance for delegates over that figure. There will be no manufacturers' exhibit in conjunction with the convention this year, the Exhibition Committee finding it advisable to forego this attraction after proper facilities could not be found to house the huge showing of products that are used in the electrical industry.

ATLANTA MEETING CLEARING HOUSE FOR EXCHANGE OF IDEAS

A. S. R. E. Covers Broad Range At Busy Sessions

Atlanta, Ga.—The seventeenth spring meeting of the American Society of Refrigerating Engineers, held here May 7, 8 and 9, brought about one hundred men identified with refrigeration to the south for the first time in the society's history. The three business sessions were held at the Atlanta Biltmore, where most of those registered also stayed, and there was a good attendance at every session.

As stated in the May 7 issue of ELECTRIC REFRIGERATION NEWS, President Harry D. Edwards opened the meeting on Wednesday morning with a brief speech of welcome, in which he outlined some of the society's purposes and immediate objects. Low temperature refrigeration was the general subject of the session. The advent of quick-frozen foods was frequently referred to, especially by G. J. Hopkins, chief engineer of the McCray Refrigerator Company, who spoke on low temperature display cases, and F. B. Green, of Ottenheimer Bros., who took the place of Reuben E. Ottenheimer, who was unable to be present. A paper which brought out considerable discussion was that written by A. H. Cooper, of the University of Tennessee, on latent heats of common edibles. Professor W. R. Woolrich read the paper in the absence of the writer.

Prof. Woolrich Is Speaker

A luncheon for the delegates followed the business session. Professor Woolrich was the speaker. In the afternoon a number of the members of the society, accompanied by the ladies, made the trip to Stone Mountain. Others made the trip to nearby golf courses.

Alvin H. Baer, one of the society's vice-presidents, was in the chair on Thursday morning, when refrigerating machinery was the subject of discussion. The first speaker was C. P. Goree, Jr., of the Frick Company, who talked on automatic refrigerating controls. He roughly divided controls into four groups, two types of pressure reducing valves, thermostatically controlled shut-off valves, and float-controlled valves. A large portion of his paper was devoted to the increasing use of float control valves. This subject caused considerable discussion, which finally had to be terminated by the chairman in order to proceed with the remainder of the program. Mr. Goree warmly defended the float valve against various challenges from the floor.

Professor F. E. Stewart, of the Georgia School of Technology, deserted his position at the stereopticon long enough to describe certain tests on low sides which are in progress at Georgia Tech. Important facts in regard to the capabilities of refrigeration apparatus are being brought out by these tests. The only criticism of them voiced in the discussion was that such valuable tests should be carried even further than the present plans provide.

A Clear Cut Picture

M. C. Terry, chief engineer of the refrigeration division of the Westinghouse Electric and Manufacturing Company, a distinguished newcomer in the refrigeration field, then told of the procedure which must be gone through with in the development of a refrigerator for the market. He gave a clear, straightforward account of how the new Westinghouse refrigerator has been developed, pointing out the relations of the various departments of his company, remarking frankly on many of the difficulties encountered, the necessity of reconciling divergent points of view, and a host of other problems that are generally lost sight of in the enthusiasm over a finished product. It was evident to all who heard him that the development of the Westinghouse refrigerator was no overnight performance, but a carefully thought out and worked out procedure. His paper was about as complete a picture as could be desired of how a modern manufacturing organization of vast resources goes about the job of putting a new product on the market.

C. O. Duevel, Jr., of the American Thermos Bottle Co., followed with a paper on vacuum as an insulator, accompanied by some interesting exhibits, and the session ended with a discussion of the A. S. R. E. Refrigeration Test Code. Although the code was published only recently, R. T. Frazier, of the Tennessee Furniture Corporation, lost no time in finding out how it worked, and

(*Continued on Page 2, Column 4*)

FREEZEL
Refrigerating Systems

CABINETS by SEEGER
MODEL JP-5-2 (Illustrated)
List Price Complete **$255.00** *at the Factories*

3 BASIC FACTS
Recognized in the Freezel Franchise

1 Above all, 1930 demands Quality in Electric Refrigeration. Freezel Time-Tested Systems deserve the best in Cabinets, thus the selection of Seeger—a truly outstanding combination in Quality merchandise.

2 Retail Prices should not only be competitive but representing the highest possible value to the ultimate purchaser.

3 Margins should be sufficient to allow the Wholesale Distributor to assist the Dealer and effectively promote Sales on a profitable basis to both Distributor and Dealer.

Write or Wire for Details

THE FREEZEL CORP.
481 Main St. GARDNER, MASS.

Illinois High School Students Form First Mechanical Refrigeration Club

THE Mechanical Refrigeration Club, one of the newest and most progressive clubs of the East St. Louis High School, was organized in September, 1929, under the sponsorship of Karl Schatz, chemistry instructor of the High School.

The purpose of the club is, primarily, to acquaint its members with the theory of mechanical refrigeration. Its secondary purpose is to give the members a first hand knowledge of the many different types of refrigerators, from the plant scale machine down to the household type.

During the first term of existence the club was composed of thirty-five enthusiastic members. During the course of study, the club visited Carter Brothers Ice Company, a commercial plant, and upon another occasion inspected the Copeland refrigerators on display here. These two trips gave the members the viewpoint of both the household and the commercial use of refrigeration. Many speakers, representing different companies here, expressed their views of the industry to the students.

In the second term the club widened its scope a trifle and made it a point to visit three plants interested in mechanical cooling. The club visited Swift & Company, Home Ice Cream Company, and a sales plant, where refrigerators are demonstrated. Many more speakers also entertained the club.

The first call for new members was overwhelming, and it was found necessary to limit the membership to approximately forty. The Mechanical Refrigeration Club ranks high as one of the outstanding clubs of the school and increased activities are planned for the future.

TEST CODES DISCUSSED AT ATLANTA CONVENTION

(Continued from Page 1, Column 5)

he described what his company has been doing. Test rooms have been built and that section of the code relating to ice boxes has had a thorough trial. Mr. Frazier cheerfully admitted that his tests had shown that one of his fastest selling items, a cheap and small ice box, does not possess as much value as a refrigerator as he had hoped, but he declared that it was his belief that the test code is a good thing, even if one of its results is to drive off the market boxes of the type mentioned. He believes that by using the test code the public can be educated to demand boxes of better quality than those now accepted.

John Wyllie, of Kelvinator, discussed briefly the progress made, and the plans for the development of that portion of the test code for mechanical refrigerators. He sketched what the committee in charge of the work hopes to accomplish in the next few months, and answered a flood of questions in regard to the work. From the character of the discussion it is evident that the mechanical refrigerator code is going to be no easy job for those in charge of its destinies.

The banquet was held on Thursday evening and the fact that the meeting was being held in the south was emphasized to the visitors when they found that the dinner was outdoors. The tables were set on the big rear portico of the Biltmore, which faces a delightful court, in the center of which is an outdoor dance floor. Unfortunately, the dance floor was never used, because shortly after the dinner began a shower came up. The tables on the veranda were out of the rain, but the dance floor was put out of commission, and the members of the Big Bethel choir, who were singing spirituals and other negro songs during the dinner, had to run for cover. They congregafed on the veranda and finished their program. They are among the leading negro singers of the south, and their presence added greatly to the attractiveness of the program.

The speaker of the evening was Lewis F. Gordon, of the *Southern Power Journal*, who almost bewildered his hearers with a wealth of statistics in regard to southern industry. By the time he finished, those at the dinner were convinced that he had personally counted every pine tree south of Mason and Dixon's line.

President Edwards called upon Crosley Field, chairman of the resolutions committee, who read a long resolution complimenting the local Atlanta committee on its work. The resolution was adopted by acclamation.

As though it had not already done enough, the Atlanta committee, consisting of C. Thomas Baker, chairman; Gene O'Brien, Walter Coxe, R. C. Geeslin, Roy Goree, Justus Kilian, W. G. Stalker, and F. C. Stewart, with Mr. Baker as speaker, presented to the society a gavel made of Georgia pine, and a striking board made of stone from Stone Mountain. President Edwards accepted the gift on behalf of the society.

Refrigeration Applications was the subject of the Friday session, with George Bright, former president of the A. S. R. E., in the chair. The first paper was read by Tresper Clarke, chemist for the Nunnally Company, of Atlanta, the south's leading candy makers. He discussed the use of refrigeration in candy manufacture; described the increasing use of controlled temperatures in that sort of work, and pointed out the great opportunities for refrigeration in the field. He said that at present, in the absence of specially designed apparatus, many of the smaller candy kitchens are using ordinary household refrigerators in their manufacturing processes.

W. R. Tucker, who introduced himself as "a plain railroad man, who ought not to be talking to a crowd of engineers," then told a keenly interested audience of his work last year in freezing Georgia peaches. A more extended account of Mr. Tucker's remarks will be found in the Refrigerated Food Section of this issue of the NEWS. He told his engineering audience that either due to luck or something equally unaccountable, he had met with great successs in freezing peaches. Whether they were slow frozen.

(Concluded on Page 4, Column 1)

Electro-Kold Offers *for* 1930

the widest range of sizes and models in refrigeration history....built to answer every electric refrigeration purpose....embodying all the features of Electro-Kold superiority

29 ***household and apartment models***
Popular priced models—exclusive built-in models—models providing dry vegetable storage bin. Deluxe porcelain models—equipped with Kold Water Container.

14 ***compressor unit models***
Masterpieces of engineering simplicity, silenced with rubber mountings . . . . furnishing a type adapted to every household, commercial and apartment installation.

52 ***frost unit models***
Designed particularly to meet every refrigeration need . . . . tray styles, non-tray style, fin-type, cross-fin or horizontal coils and special flange type boilers for commercial installation.

39 ***types of commercial models***
Including water coolers, cube and block ice makers . . . . ice cream cabinets, root beer coolers . . . . walk-in coolers, back-bar and show case installation and other special types of commercial refrigeration.

Electro-Kold holds a strategic position in the Western territory. The proximity of the factory to its market has enabled Electro-Kold to build an enviable reputation for superior service to its customers.

ELECTRO-KOLD
REFRIGERATION
Since 1922

SOUTH 161 POST STREET, SPOKANE, WASHINGTON

"It was built by BOHN"

The handy base cabinet may either be used for refrigerating machinery or the storage of cooking utensils, canned goods, vegetables, etc.

The name BOHN is our warranty that the finest materials obtainable have been utilized by skilled craftsmen and refrigeration engineers to build for you this beautiful and scientific product—an all-porcelain BOHN refrigerator.

BOHN installations include many of the leading hotels, restaurants and hospitals in America.

BOHN refrigerators are used exclusively on all Pullman-built railway dining and buffet cars.

The United States War Department has purchased hundreds of all-porcelain BOHN refrigerators for our army barracks and battleships.

In choosing BOHN refrigerators, discriminating home owners throughout the country have given BOHN a representative list of which any manufacturer might be proud.

Write for details of the remarkably low prices that are now prevailing.

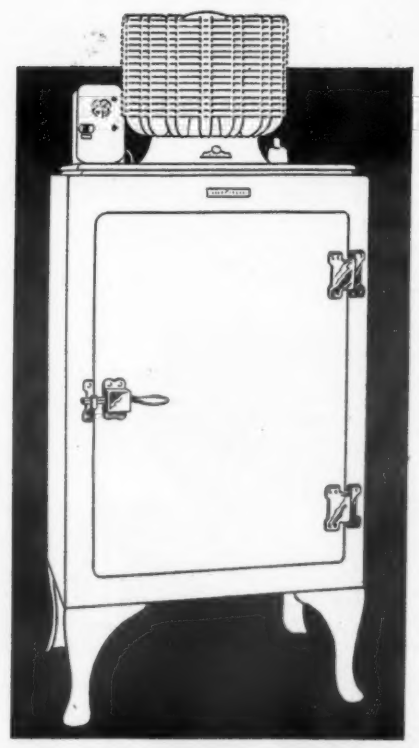
BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

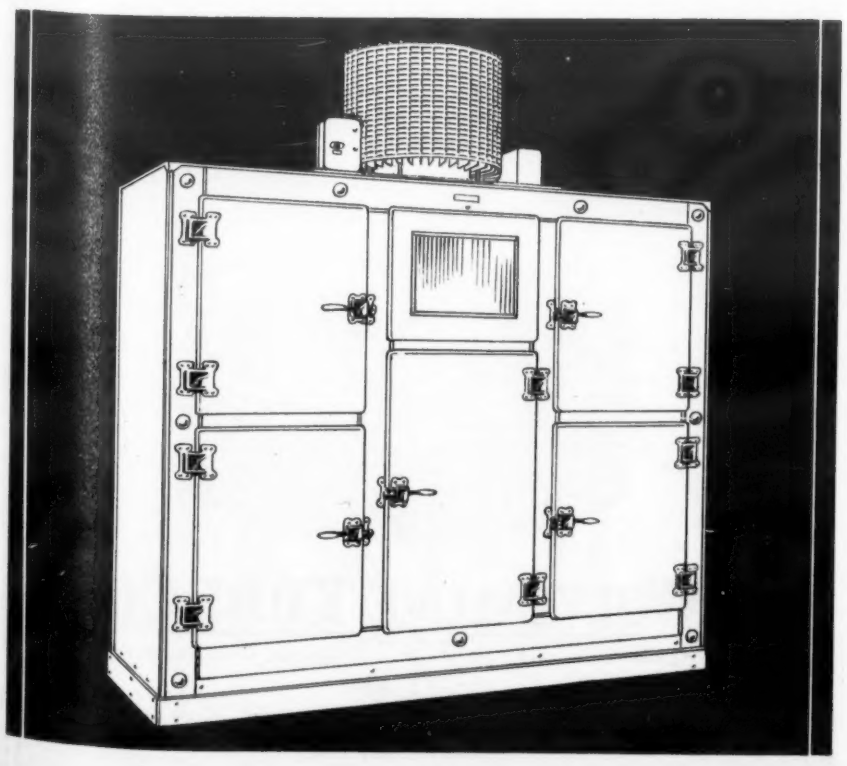
For service on your General Electric Refrigerator during the years of 1927, 1928, 1929 and 1930

$.00

In over 3 years, that is the only service bill any owner of a General Electric Refrigerator has had to pay for keeping his refrigerator in order.

Make no secret of this remarkable record of trouble-free efficiency. Nineteen-Thirty's impressive increase in sales is the greatest proof that people want to buy the refrigerator with such a record!





GENERAL ELECTRIC
ALL-STEEL REFRIGERATOR

ELECTRIC REFRIGERATION DEPARTMENT OF GENERAL ELECTRIC COMPANY,
HANNA BUILDING, CLEVELAND, OHIO

The A. S. R. E. in Convention Assembled in Atlanta

SOUTHERN MEETING

(Concluded from Page 2, Column 5)

quick frozen or sharp frozen seemed to make little difference; they all turned out well, and furnished the groundwork for what bids fair to become a most important development. He did make the point, however, that freezing in small packages was desirable.

A paper dealing with refrigeration of fruits in transit was read by A. J. Lorion, of the freight container bureau of the American Railway Association. It evoked considerable discussion and several methods of obtaining data, which at present does not exist, were suggested.

The closing paper of the session and of the convention was read by Dr. J. B. Churchill. Written by him and John E. Starr, it discussed some of the important new discoveries and developments in refrigerants.

Discussing the possibilities of the use of acrolein as a warning agent, Dr. Churchill stated that 3 to 5 parts in 1,000,000 parts of methyl chloride would create a highly irritating effect upon the eyes and nostrils, and therefore serve as an excellent warning agent. His indorsement of acrolein was thorough.

He displayed a noticeable lack of enthusiasm, however, when he came to the subject of dichloro difluoro methane, the new refrigerant recently announced by Dr. Thomas Midgley, Jr. He viewed the new substance with considerable pessimism, explaining certain characteristics, which in his opinion will prevent it from doing all that some of its advocates seem to expect it to do.

He also told of some experiments made with methyl chloride, which indicated that the danger of poisoning of food exposed to escaping gas was very remote. These experiments have shown that foods exposed to high concentrations of this gas have proved harmless when fed to dogs over a considerable period of time.

President Edwards took the chair for a few moments at the conclusion of Dr. Churchill's paper, and expressed the appreciation of the society for the cordiality of the welcome extended by its southern members, and declared the convention adjourned.

The detail work of the convention was, as usual, ably handled by David L. Fiske, secretary of the A. S. R. E. Most of the papers were printed in advance and provided in convenient form, so that preparation of discussion was an easy task.

Those who registered at Atlanta were:

MEMBERS

A. J. Authenrieth, L. Erwin Baumgarten, A. H. Baer, C. T. Baker, Chas. F. Belshaw, Stephen J. Benn, Edward L. Bennett, Harley H. Bixler, J. A. Boucher, Geo. Braungart, Jr., Geo. B. Bright, C. J. Carlsen, Walter Christiansen, J. B. Churchill, Heywood Cochran, Emmet Cockrill, Walter Coxe, Schuyler Dalton, C. E. Dedmon, C. O. Duevel, Jr., Horace W. Eagles, Harry Eaton, Harry D. Edwards, Crosby Field, David L. Fiske, Robert T. Frazier, C. P. Goree, Jr., C. H. Hall, F. J. Heideman, George M. Hilger, A. B. Hoppe, R. S. Howell, J. V. Jamison, Jr., Robert H. Jennings, Jr., L. S. Keilholtz, Justus Kilian, Irving J. Knudson, Hugh J. Krampe, W. R. Kremer, George Lange, S. E. Lauer, L. L. Lewis, John R. Livezey, Fred. I. McCandlish, Glenn Muffly, D. F. Newman, J. F. Nickerson, Eugene W. O'Brien, Alfred W. Oakley, R. L. Parish, Gale T. Pearce, M. H. Robbins, George A. Robertson, Louis C. Roesel, L. H. Roller, C. J. Romberg, Allen Rushton, Harry Sloan, C. C. Spreen, Fred C. Stewart, John F. Stone, C. H. Tanger, M. C. Terry, J. H. Voss, Robert W. Waterfill, F. A. Wegener, R. L. Wells, E. T. Williams, W. R. Woolrich, John Wyllie, Jr., Chas. Zilker.

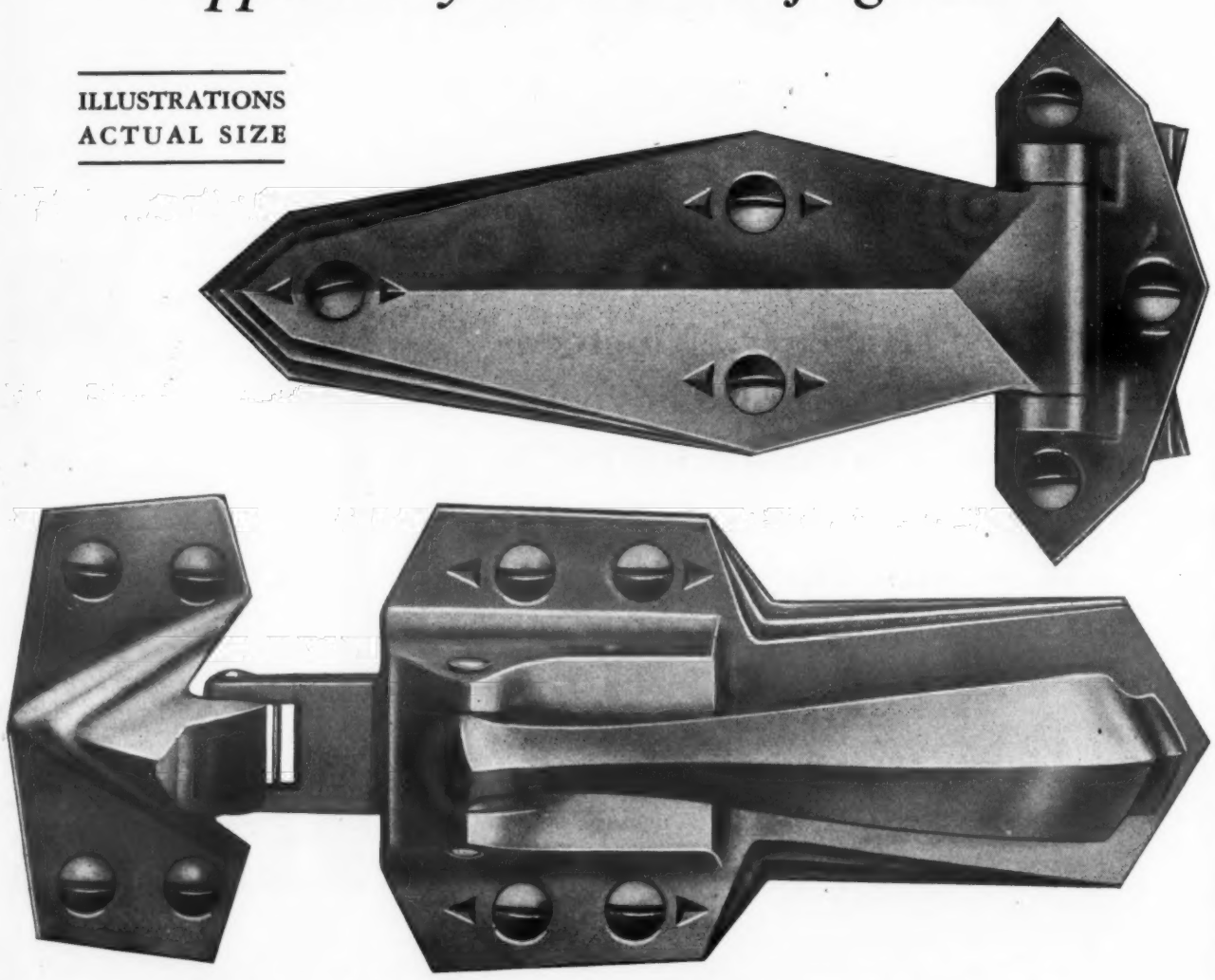
NON-MEMBERS

Norman T. Anderson, Walter F. Blake, Leo S. Bosarge, B. J. Brooks, B. B. Browne, Gerald C. Denebrink, Edward Dunnick, R. L. Ellis, W. J. Ellis, F. H. Faust, R. J. Field, Wm. J. Finnegan, E. R. Fitzgerald, R. G. Geeslin, J. L. Gibson, F. B. Green, Geo. K. Green, George Hilger, Jr., Z. N. Holler, G. J. Hopkins, Arthur E. Howe, Harold T. Hulett, Mark Hyde, Wm. Jabine, J. J. Logan, A. J. Lorion, H. M. McGaughey, Jos. E. Murkerman, Edward Scott Pattison, H. B. Phelphs, F. W. Rabe, T. F. Screven, R. Smith, George A. Stevenson, C. C. Street, Glenn Sudderth, Warren S. Wallace, Ross O. Watson, G. A. Wilson, Jr., William B. Wood.

New Locks *and* Hinges

That will add Beauty and Sales Appeal to your New Refrigerators

ILLUSTRATIONS ACTUAL SIZE



TWO OF THE MANY HUNDREDS OF PATTERNS TO CHOOSE FROM

LOCKS and HINGES in every size, style and design to correctly trim any Refrigerator or Cooler. All of the popular finishes, including Chromium.

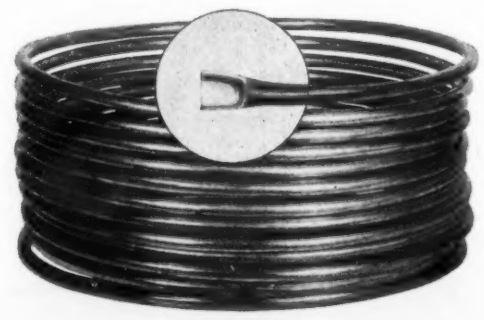
Special attention given inquiries from rated manufacturers.

GRAND RAPIDS BRASS CO.

GRAND RAPIDS, MICHIGAN

DEHYDRATED WOLVERINE SEAMLESS COPPER TUBING

Highest quality seamless copper tubing—perfectly dehydrated and solder-sealed—made to A. S. T. M. Specifications (B 68-27T)—ready for quick installation. Send your production requirements for quotations—or wire for rush shipment from stock.



WOLVERINE TUBE CO.

SEAMLESS COPPER BRASS & ALUMINUM

1431 Central Ave. Detroit, Mich.

Phone Cedar 5000

Sales offices in all major cities. Write or phone for name of nearest representative.

Kelvinator Design *Is Years Ahead!*

with

Cold Storage Compartment

Automatic Fast Freezing

Controlled Temperature for Foods

Abundant Ice Capacity

Unmatched for perfect preservation of foods is the controlled 40 to 50 degree cold in Kelvinator's spacious food compartment. And unit for unit, Kelvinator electric refrigerators offer the most bountiful ice capacities—up to 35 lbs. at a freezing—to be found in the industry.

BEFORE deciding on any electric refrigeration franchise, make sure that the product answers *tomorrow's needs* as well as the requirements of today.

You can look forward confidently to years of profitable business with Kelvinator, because Kelvinator electric refrigeration *today* is years ahead in what it offers home-owners.

Kelvinator for example provides a special Cold Storage Compartment—with below freezing temperature—for proper care of frozen fish, meats, fruits, or keeping an extra supply of ice cubes on hand.

Exclusive to Kelvinator, too, is Automatic fast freezing, achieved by Iso-Thermic Tubes, the world's fastest automatic freezing device.

Kelvinator has been *first* for *sixteen years* in anticipating future refrigeration needs. And it is *first today* in basic advancements which overshadow all previous developments in automatic home refrigeration.

Check Kelvinator's new cabinet design—in three price ranges. Note their artistic beauty and rugged construction—gleaming white porcelain interiors—extraordinary food storage space. From the electrically lighted de luxe models to the efficient smaller sizes, each presents a value that wins sales on any basis of comparison.

To Dealers: Kelvinator prosperity is revealed by a record increase in sales for the first 7 months of the 1930 fiscal year. We will gladly forward full details of the complete new line of Super-Automatic Kelvinators to interested dealers.

KELVINATOR

KELVINATOR SALES CORPORATION, DETROIT, MICHIGAN
KELVINATOR OF CANADA, LIMITED, LONDON, ONTARIO
KELVINATOR LIMITED, LONDON, ENGLAND

REX COLE IS OPTIMISTIC EARLY IN THE MORNING

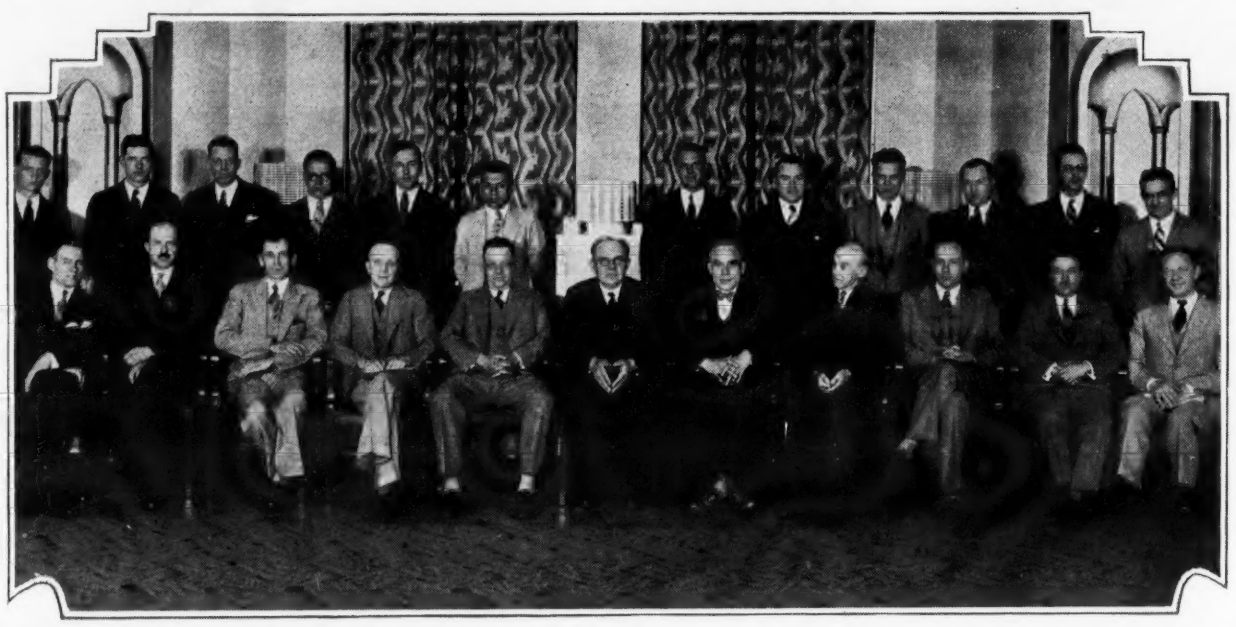
New York, N. Y.—"Business is good," announced Rex Cole, distributor of the General Electric refrigerator, at the recent Pendulum Breakfast Conference held in the West Ballroom of the Commodore, at eight o'clock the morning of May first. "An analysis of the first four months of 1930 against the same period of 1929 indicates a gain of no less than eighty-five per cent."

The New York distributor of General Electric refrigerators, who recently moved into spacious quarters at 265 Fourth Ave., said to be the largest display of General Electric refrigerators in the world, stated that such an increase was significant in view of the fact that this year was destined to be the greatest in electric refrigeration history, and the opening that Rex Cole, Inc., has made was proof that this organization was prepared to take a large measure of the increased business.

Preparation has taken the form of better facilities, enlarged sales force and specialized territories to carry on the work more carefully and more successfully. The extension of the Commercial Department, and the most recent addition of the Water Cooler Department, as well as the increased facilities of the Apartment House Department are a few of the steps taken by Rex Cole toward the extension of business in the metropolitan area. The Retail Sales organization has just launched an intensive and extremely remunerative contest for the month of May to capitalize the early summer business.

It is anticipated that sales records at the close of the year will outstrip all others of previous years and present a high mark for other distributors to shoot at.

G. E. Engineering Staff Concentrated in Cleveland for Refrigeration Conference



Cleveland, Ohio—A general engineering conference at which engineers of the electric refrigeration department of the General Electric Company at the Schenectady, Erie and Fort Wayne plants met with those of the department's headquarters in Cleveland, was held at Refrigeration Institute, here, May 6 and 7. The engineers from the three cities had a very busy program, the two days in Cleveland being crowded with events and speeches. W. M. Timmerman, commercial engineer with the Cleveland office, acted as chairman of the meeting. T. K. Quinn, general manager, and P. B. Zimmerman, sales manager, both of Cleveland, were present at the conference.

Those attending the conference were: Left to right (standing)—W. M. Timmerman, H. T. Hulett, W. C. Noll, J. J. Donovan, H. A. Whitesel, A. J. Redpath, J. J. Walker, A. M. Sweeney, J. L. Knight, E. R. Fitzgerald, Glen C. Wasson, W. E. Landmesser. Left to right (sitting)—P. B. Zimmerman, Dr. A. R. Stevenson, Jr., L. P. Hutt, P. C. Morganthaler, D. F. Newman, Chris Steenstrup, R. Steck, C. Orr, F. H. Faust, A. W. Ayers, T. K. Quinn.

EVANSVILLE DEALER CLOSES BIG WEEK

Evansville, Ind.—Electric Refrigeration Company, General Electric representatives, 627 Main Street, marked the biggest week, ending May 10, since the establishment of the enterprise here, with total sales of 83 units, according to S. R. Stephens, manager.

On Tuesday the company contracted with the A. W. Schwentker Realty Company for equipping the Buckingham apartments with ten units of ten cubic feet capacity each.

The following day a single order from G. A. Hartmetz provided for 20 installations of varied type of household models, and twenty-five units for residential rental service.

The week closed with a 100 per cent General Electric installation for Walker hospital, the order consisting of one large commercial type unit for the kitchen, seven household units for diet kitchens, and four water coolers. Incidentally the week included sales of sixteen individual types for homes.

ZEROZONE NOW HAS OMAHA SELLING AGENCY

Omaha, Nebr.—Zerozone is the first electric refrigerator to be taken on by an Omaha department store. The Brandeis Stores used teaser ads for three days before putting out the real selling advertisement, which announced a Zerozone campaign in both the Omaha Sunday papers of May 4. This store received 108 Zerozone refrigerators complete and sold 45 the opening day. This was followed by 35 more during the week.

To give this the right impetus from the department store selling point, a price of $144 was made.

COPELAND ADDS TO LIST OF CONNECTICUT DEALERS

New Haven, Conn.—New Haven Electric Company, Copeland jobbers for the greater part of the Connecticut territory, has added 30 dealers since the first of the year, bringing the total to 49, according to C. F. Ganter, warehouse manager. The concern has its headquarters at 131 St. John Street. New dealers are rapidly being added to the list.

Roth & Smith, Inc., 1366 Fairfield Avenue, has been named key dealer for the Bridgeport territory. Five sub-dealerships have been appointed, according to W. B. Sanderson, field manager of the New Haven concern. The new dealerships are: J. Ned Leon, 325 Stratford Avenue; Central Electric Service, 1477 Main Street; Keegan Radio Service, 2432 Main Street; Fairfield Hardware Store, Fairfield, and W. D. Dixon, Westport. Jesse B. Woodhull, North Avenue, who has been handling Copeland in Bridgeport for the past two years, will continue as a dealer under Roth & Smith.

The concern has been doing an extensive business in installation of milk-cooling equipment for Connecticut milk dealers. Among recent installations listed are: E. R. Warner, Wallingford, walk-in cooler, brine pump and aerator, ¾ h. p. compressor, 300 quarts daily; T. L. Atwood, Middlebury, special cooling cabinet for 300 quarts in bottles, ½ h. p. compressor; R. E. Atchison, Middlebury, 6-can cooling cabinet, ⅓ h. p. compressor; A. W. Anderson, North Haven, 8-can cooling cabinet, ½ h. p. compressor; George C. Dudley, Bantam, 8-can cooling cabinet, ⅓ h. p. compressor. A walk-in meat cooler has also been installed in the Home Market, Waterbury, with 1 h. p. compressor.

VANQUISHED FETE SALES CONTEST WINNERS

Huntington, W. Va.—The Frigidaire sales organization of Huntington were entertained recently with a banquet at the Justice Inn, at Milton. The Huntington organization were the guests of the Charleston organization, the former having been the winners of the sales contest held during April.

A. F. Wood, the Frigidaire dealer in Huntington, made an interesting address, and D. W. Ashford, sales manager, awarded quota pins to those making their quarterly quota: Guy Jackson, Catherine Enslow and Otto A. Cochrun.

HARPER-MEGEE EXPANDING COMMERCIAL DEPT.

Seattle, Wash.—The commercial department of the Harper-Megee, Inc., distributors for Copeland electric refrigerators, has been enlarged to care for expanded business in this division. Don A. Lane, as manager, has appointed William Weaver, H. S. Slater, Sam Hasmer and G. D. Guyette to this department to aid him in increasing sales volume in the commercial field.

a Sell Out.

ONCE in a blue moon a manufacturer comes into the market with a product so far in advance of the field, so outstanding in every respect—quality—performance—price, that the trade and public alike welcome it with open arms.

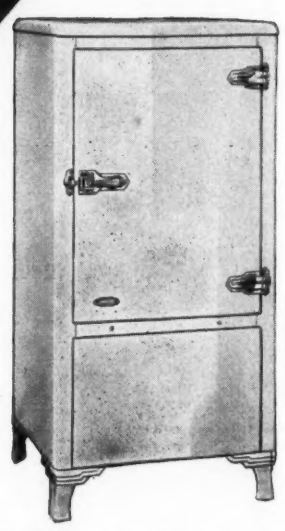
The new 1930 NORGE line of package merchandise met with such a reception. An avalanche of orders followed its introduction. Accelerated production—day and night operation—fails to keep abreast of the insistent and growing demand.

Distributor and dealer applications pour in by mail, wire, and long distance.

Far-sighted business men visualizing the potentialities of the NORGE Franchise are seeking it with full understanding that shipments in their case are months away.

The same features that impress them will impress you. If you are becoming "refrigeration minded", write, wire or call us.

There is some distributor territory yet available. Dealer inquiries will be handled promptly.



17 Norge Features

The Rollator—exclusive in Norge Refrigeration. Self-Closing Freezer Door—cubes protected from odors. Five-Speed Cold Accelerator. Down-Draft Flues—uniform cold air circulation. Defrosting Switch. Maximum Shelf Space. Non-Sticking Cube Trays. Chill Tray. One-piece Porcelain Lining. Modern Chrome Hardware—artistic, non-tarnishing. Spring Door Latch—closes tight without manipulation. Refrigeration System—removable as single unit. Tall Bottle Cut-out. Abundant Ice Cube Supply. Concealed Tubing—freedom from injury. Clean-Easy Edges to Food Compartment. Double-Gasketed Door—lowers operation costs.

NORGE

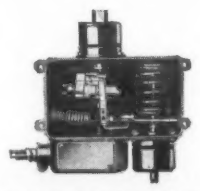
CORPORATION DETROIT
DIVISION OF BORG-WARNER

20 YEARS IN THE MANUFACTURE OF PRECISION MACHINERY—YEARS OF SATISFACTION IN THOUSANDS OF INSTALLATIONS THROUGHOUT THE WORLD—THE FINANCIAL AND ENGINEERING STRENGTH OF THE GREAT BORG-WARNER ORGANIZATION—ALL ASSURE NORGE SUPREMACY IN DESIGN, CONSTRUCTION AND VALUE.

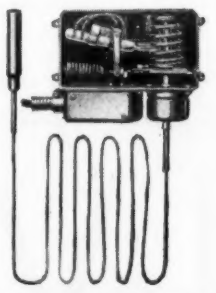
Refrigeration Engineers, everywhere endorse this

MERCOID

especially designed for Commercial Installations



Model 1BA for low side control by pressure. Adjustable range—any cut-in or cut-out points between 25 inches vacuum and 25 lbs. pressure. High side cut-out—adjustable for pressures up to 160 lbs.



No. 848-K and L, for temperature control of liquids and gases, adjustable range—K minus 30° to plus 60°. L-1 from plus 10° to 70°.

THOUSANDS of these Dual Mercoids are in operation in all parts of the world. This model is especially designed for "commercial" work—Ice Cream Cabinets, Soda Fountains, Meat Boxes, Florist Boxes, Milk Coolers, Multiple Hook-ups, etc.

One instrument combines either pressure control or temperature control for the low side and high pressure cut out. Adjustable over a wide range for any desired "cut-in" or "cut-out."

These controls operate with the well-known Mercoid switch—no exposed arc—no corrosion of contacts—and the control carries full line current, either 110 or 220 volts.

Write today for complete information on these instruments and the Solenoid Valve for water-cooled units.

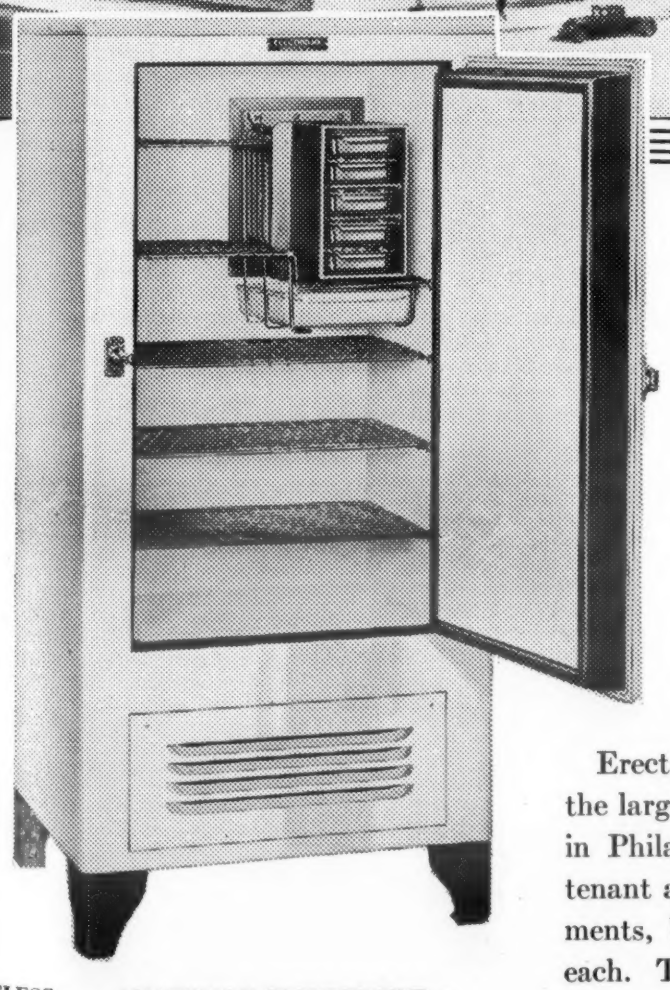
AMERICAN RADIATOR COMPANY

Accessories Division, Dept. MER-5
40 West 40th Street, New York, N.Y.

Now . . .

Philadelphia's *only* $2,000,000 Apartment *goes* Electrolux!

IN PHILADELPHIA THE SWING TO ELECTROLUX GATHERS MOMENTUM. *276 units have just been installed in this modern apartment at Clearview and Broad Sts.*



NOISELESS . . . AMAZINGLY INEXPENSIVE *to operate. These two facts are prime reasons for the great and growing acceptance of Electrolux. Hostess model, one of the most popular sizes, is shown above.*

FROM the City of Brotherly Love comes the good news. Electrolux wins again! Now Electrolux is the choice for Philadelphia's vast new apartment development at Broad and Clearview Streets. The first to be built under Philadelphia's new fire protection code. Designed to give tenants a maximum of protection.

Erected at a cost of $2,000,000, this is the largest single apartment construction in Philadelphia. And second largest in tenant accommodation. With 276 apartments, built in 2 sections of 138 suites each. Ten elevators. Soundproof rooms throughout. Interiors arranged to insure a maximum of ventilation and light. A kitchen-dinette in even the smallest suite. And Electrolux in every one of the 276 completely gas-equipped kitchens!

No isolated case is this. But an outstanding example of the acceptance Electrolux receives at every hand. From New York City to Portland, Ore. . . . in city after city . . . Electrolux has become standard in the finest homes and apartments. Because housewives know that Electrolux offers them exclusive advantages. And builders and architects know what tenants want.

Need you be urged to share in the big profits possible from the sale of Electrolux? Apartment houses are going up about you daily. New home developments are rapidly being completed. Take advantage of them! Here is a rich market for Electrolux . . . a ready market. *Because Electrolux is the choice of the hour . . . and of the year!* A few desirable franchises are still available. For information write, wire or telephone Electrolux Refrigerator Sales, Inc., Evansville, Ind.

A tiny gas flame takes the place of all moving parts

ELECTROLUX THE *Gas* REFRIGERATOR

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Two Weeks by

BUSINESS NEWS PUBLISHING CO.

550 Maccabees Building, Woodward Avenue and Putnam Street
Detroit, Michigan. Telephones: Columbia 4242-4243-4244

Subscription Rates:

United States and Possessions: $2.00 per year; three years for $5.00
All Other Countries: $2.25 per year; two years for $4.00

Advertising Rates on Request

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Chicago Representative: F. W. Henkel, 306 S. Wabash Ave., Phone Wabash 6668

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VOL. 4, No. 19, Serial No. 95 — May 21, 1930

Progress and Responsibility

PROGRESS is the watchword of the modern refrigeration industry. This issue of ELECTRIC REFRIGERATION NEWS bears witness to that fact on almost every page. New things are being planned, new things are being done, the whole industry is alive with a forward spirit.

The sessions of the Spring Meeting of the A. S. R. E. at Atlanta were devoted to plans for the future rather than to a discussion of the accomplishments of the past. New developments were the features of the program every day of the meeting. The refrigeration men who made the long trip to Atlanta came home with new ideas for the furtherance of the industry in which they work.

Even the safety code situation gives signs of clearing up. The A. S. R. E. code has gone to the American Standards Association. There are indications that this code with certain modifications may soon find favor with the Chicago City Council and give the second city in the nation a set of safety regulations that will meet with the approval of interests that only a short time ago seemed hopelessly opposed. Perhaps the last sentence should be taken more as the expression of a devout hope than as an inspired prophecy, but at any rate, we'll let it stand.

From another corner of Illinois comes a story of another sort of refrigeration progress. Under the guidance of their chemistry teacher, students in an Illinois high school have formed a Mechanical Refrigeration Club, which has proved such a popular organization that its membership has been limited. Teaching the young idea to freeze is surely something new.

The advertising columns continue the theme of progress. Although the year is nearly half over, the announcements of new refrigeration equipment keep right on coming. There is no standing still in the refrigeration industry in 1930. It is a case of go forward or slip backward, and the former course is by far the most popular. So the NEWS has had, and continues to have, the pleasure of presenting to the attention of the industry a long line of new refrigerators, domestic and commercial, display cases, water coolers, room coolers, with a large number of refrigeration accessories. And the end is not yet.

The rapid development of quick-frozen foods in the last few months has contributed to the progress of the industry. The makers of display cases have tackled their new low temperature problems with an eagerness which was a surprise even to those who knew their capabilities. Manufacturers of domestic units are providing special compartments for keeping quick-frozen foods when they reach the home. They have sensed the importance of the new products and have lost no time in preparing for them.

An industry which is so alive to its opportunities is certain to be an important factor in the nation's development for many years to come. It is attracting men of experience and skill from other industries and they are contributing their share to its success. It is fast gaining recognition as one of the most talked of industries in the land.

All of which means that its responsibilities are progressing along with everything else. The public is depending upon the refrigeration industry for the safeguarding of its food supplies, a vital responsibility. The protection of the public health is a big job for any business to undertake, but the refrigeration industry has signed up for that job, and isn't going to dodge one bit of the responsibility involved. The refrigerator man of today realizes that fact. He talks food and health now, not machines.

Progress and responsibility go hand in hand. The refrigeration industry has found that out, and is proving equal to its big job.

The Refrigerated Food Section

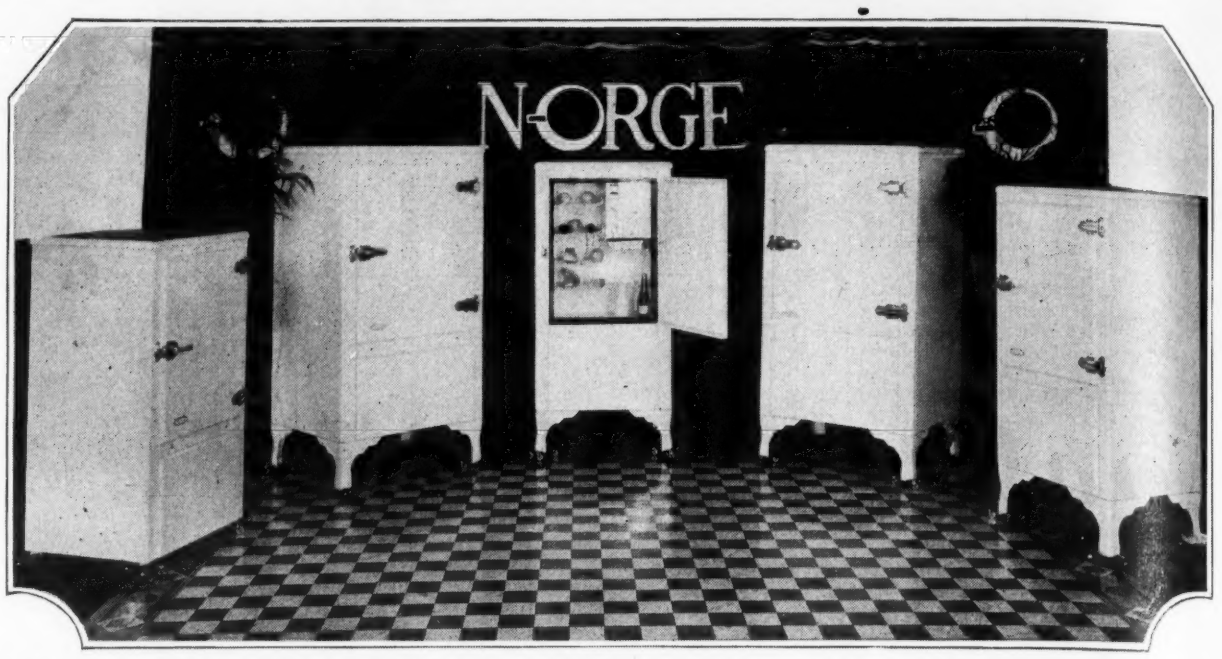
is a part of this issue of

ELECTRIC REFRIGERATION NEWS

The contents of the Refrigerated Food section are of interest not only to the men engaged in the production of frozen food and equipment for handling it, but also to the retailers who deal directly with the consumer. Copies of the Refrigerated Food section go to retailers, to chain store executives and others active in the marketing of food products.

Additional copies of the Refrigerated Food section may be obtained at a cost of $10 per hundred—10 cents per copy.

Norge Vies With Radios



Trilling and Montague made their debut in the refrigeration field with this display of 1930 Norge models in their Philadelphia Showroom.

MUSICAL ACCOMPANIMENT ENLIVENS REFRIGERATION

MUSIC and refrigeration do mix and do form a business, it is being proved by Copeland Products, Inc., Mt. Clemens, Mich., manufacturers of electric refrigeration, according to W. D. McElhinny, vice-president in charge of sales.

Until recently the general belief in both the electric refrigeration and radio industries was that the radio dealer who took on electric refrigeration, either to make it a large factor in his business or even a "sideline," would become neither fish nor fowl—neither radio nor electric refrigeration dealer. Three years ago Copeland officials began to draw away from that conclusion and started out to prove the belief ill-founded. That it has succeeded is shown by the hundreds of radio dealers who are making outstanding successes in electric refrigeration merchandising and by the company's continued soliciting of such dealers as merchants of its products.

"We have proved that radio and refrigeration selling—while almost entirely different—can be made to combine," declares Mr. McElhinny, "and have proved it many times in various sections of the country. But they combine only when the practices of both industries are considered and are mixed, and when the things necessary to make either business a success are recognized and employed.

"An an index of how leading radio distributors are turning to electric refrigeration, I might include a short list of leading radio men who are now handling Copeland products, are doing an excellent job of merchandising, and are proving to themselves that it is a highly profitable connection: Brown Distributing Co., Atlanta, Ga., Philco Radio; H. C. Noll Co., Omaha, Nebr., Atwater-Kent; Northeastern Radio, Inc., Boston, Zenith; Kruse Radio, Inc., Indianapolis, Crosley; Harper-Meggee, Inc., Seattle, R. C. A.; Fiske Radio Supply Co., Albany, N. Y., Stewart-Warner; Excelsior Radio Co., Harrisburg, Pa., Lyric, and Binder Electric Supply Co., Trenton, N. J., Kennedy.

Products Different

"Refrigeration and music, or radio, are as different from each other, as far as the product is concerned, as almost any two opposites can be," according to Mr. McElhinny. "As far as the successful selling of refrigeration in this country is concerned, it has usually been successfully marketed by a highly specialized specialty organization. A great deal of educational work and sales training has been necessary. Supervision through sales supervisors, field men, has been almost essential. The methods of covering the territories and the securing of prospects have been of a highly intensive nature. Dealers and distributors not only have demanded cooperation and factory help, from both a sales, advertising and service standpoint, but in this new industry such help has been absolutely necessary. The result has been that successful organizations have sales, service and advertising policies that are intensive beyond all doubt because of the very necessity for them.

"A good many radio organizations during the last three years have been flushed with success during the radio season, when admittedly the business came easy and large volume sales were built up. The season, while not long, was fast and furious, but the decline from a sharp peak was very great. Some effort was made to keep the business on a steady keel from the first of January until August, when the season starts again, but as competition increased and the general demand for radio sets fell off, many of the people in the industry looked for something to sell that would have a peak when radio business was at the lowest ebb. Refrigeration seems to fit the sales curve situation exactly. These radio distributors have an organization that could be transferred to refrigeration sales.

"The danger in the whole proposition lay in the fact that these two businesses, if combined, must be well mixed—that the things necessary to make either business a success be recognized and put into practice. It is necessary to carry refrigeration merchandising from the factory to the distributor, to the dealer and on to the consumer. The electric refrigerator does not cover itself with frost at the turn of a button and emit words and music that create an immediate desire on the part of a prospect for ownership. It demands careful and well-planned selling. Furthermore, it sells at prices ranging from $180 to around $800 retail. In addition to the business in household models, there is the large field of commercial refrigeration, requiring information of a technical nature; the apartment-house field, embracing quantity sales, and the field of water coolers, together with a great many specialized applications. Our early experience has taught us to be careful in the choice of organizations to sell this kind of goods and that once the choice is made, there is a real necessity for getting the necessary help and co-operation to convert the entire organization into specialized selling and away from certain old-line jobbing principals. When this is done these two businesses mix extremely well and, in most cases, neither one has been neglected at the expense of the other due to a peak season on either product.

"Certain changes have been going on in both industries. The entrance of new capital and changed conditions of merchandising are pointing out some of the bad practices which have grown up. A general recognition of the necessity of change has come about.

"We have seen an opportunity in combining these two businesses and we are taking advantage of it. Some of our very best sales outlets engage in both businesses, with the result that both phases have been greatly benefited, organizations are kept intact and added to throughout the year, and sales volume on both lines has been increased. Copeland has gone through an experimental period covering three years with a large number of distributors handling both lines. We have demonstrated that there is further opportunity in this situation and we have, therefore, formulated a definite plan of operation for the radio distributor, and we are soliciting them as sales outlets under this new plan for 1930."

BALTIMORE DEALERS SEE REFRIGERATION PROFITS

Baltimore, Md.—A number more of exclusive radio establishments in this city have taken on electric refrigeration. J. C. Keyser and H. L. Crawford, trading as Radio, Inc., 1814 North Charles Street, who maintain an exclusive radio shop, are now retail dealers of the General Electric line.

Henry O. Berman, operating the Berman Electric Co., 1233 West Baltimore Street, where he maintains an exclusive radio and radio service shop, has taken on the Copeland line.

George J. Hoeflich, John E. Schmidt and A. Edward Holl, trading as the Liberty Electric Co., 3307 Greenmount Avenue, have joined the ranks of radio dealers by handling the General Electric line.

The Hamilton Co., radio retailers, located in the North Avenue Market Building, North Avenue at Charles Street, are selling the Copeland line.

PROMINENT DISTRIBUTOR TAKES ON NORGE LINE

Philadelphia, Pa.—Trilling & Montague, recently appointed distributors of Norge electric refrigerators, occupy a prominent position in the radio distributing field. This firm is also distributors of Zenith Radio, R. C. A. Radiotrons and other nationally recognized radio products. Their radio territory comprises eastern Pennsylvania, southern New Jersey and Delaware—numbering over 1,000 active radio accounts. Their slogan is "Grow With Us."

The firm was founded in July, 1923, in a loft situated in the heart of the wholesale electrical and radio trade. David M. Trilling brought to his new enterprise technical and merchandising experience of many years' standing. For several years he was connected with a large electric and radio supply house in the sales division, also having charge of purchasing. Prior to that he served in Uncle Sam's Navy for eight years, including the period of the World War, as radio operator and technician.

Harry Montague, of the firm, also had a background of successful radio experience in the selling end.

The rapid growth necessitated several changes in the location, until the firm occupied, in July of 1927, their present large and spacious quarters at the northwest corner of 7th and Arch Streets. These quarters give the firm about 15,000 feet of floor space on the ground floor, and an equal amount of basement space for storage purposes, shipping, etc. A fleet of five trucks is owned by the firm and is a familiar sight on the streets of Philadelphia for their delivery errands.

In a letter introducing the Norge line to dealers, Trilling & Montague say:

"What line can the radio dealer sell to his regular clientele, through his regular sales force, that requires little or no specialized training; that does not increase his overhead; that requires a small investment; and, particularly, that will run along on its own momentum when he is busy with the radio business during the fall and winter months? The most satisfying answer to these questions is found in no product as it is in electric refrigeration.

"For the purpose of the radio dealer he must have a product that is not only efficient but also so designed as to be installed in the ultimate consumer's home as simply as a radio set—just plug into the light socket—no fuss or bother. Moreover, the manufacturer must provide a satisfactory margin of profit to make it interesting and worth while for the dealer to actively push the sale of electric refrigerators."

During the week of April 14 the firm held open house with an attractive exhibition of Norge refrigerators, which was viewed by hundreds of dealers from every part of their territory. An attractive Norge exhibit was also conducted by Trilling & Montague in connection with the Philadelphia Refrigeration Show, held from April 21 to 26. During the first four weeks of their Norge activities, Trilling & Montague have franchised 100 dealers, and new franchises are being secured daily.

OMAHA COMPANY ADDS RADIO AND WASHERS

Omaha, Nebr.—The Storz Electric Refrigeration Company has taken on a line of radios and electric washers. E. J. Nellor plans to use the same sales force in handling the new merchandise that is now engaged in selling refrigeration.

The Storz Company secured the contract for furnishing the twelve apartments in the Arlington Manors with the refrigerators. Payne & Sons made the purchase and will manage the property.

Kelvinator After Sky Honors

Dr. LeGalle preparing the "Kelvinator" for its bid to fame.

THE Kelvinator Corporation is "air-minded." Its executives frequently "fly" on their business trips. An important air event this year will be the National Balloon Race, at Houston, Tex., June 10.

The "Kelvinator" will compete, piloted by Dr. G. M. LeGalle, of Detroit, who has won renown as a balloonist. He is a physician and surgeon, and was a lieutenant in the Medical Corps during the World War. He became interested in ballooning while stationed at the U. S. Air Station, Akron, Ohio, and has participated in four races: Detroit News Trophy races of 1926-27, National Balloon Race 1927, as aide to Charles D. Williams, Jr., in Detroit No. 1; and the International Balloon Race, in which he was aide to Georges Blanchet in the French bag, "Lafayette," finishing in fourth place.

Other entries will be from the Army and Navy, Goodyear, Detroit Balloon Club, Capt. Honeywell, of St. Louis, a famous balloonist, and others. The big race at Houston will eliminate for the International Race in August.

It is understood that Dr. LeGalle will use Kelvinator ice cubes for ballast—saving the necessity of throwing anything overboard at any stage of his stay in the air.

AYERS-LYONS, BOSTON, ARE FACTORY REPRESENTATIVES

ON page 10 of the April 23 issue of the NEWS, reference was made to the Ayers-Lyon Corp., Boston, as Copeland distributors in a caption describing the opening of a new Copeland showroom at Providence, Rhode Island. The NEWS has been advised that Ayers-Lyon are Copeland factory representatives, while Northeastern Radio, Inc., Boston, are distributors for that territory.

T. B. FORDHAM LEAVES FRIGIDAIRE

Dayton, Ohio—T. B. Fordham recently resigned his position as works manager for the Frigidaire Corporation here.

FRIGIDAIRE SALESMEN TO SEE INDIANAPOLIS CLASSIC

Dayton, Ohio—Five hundred leading Frigidaire salesmen from all parts of the United States and Canada will attend the annual Decoration Day Speedway race at Indianapolis on May 30 as guests of the corporation, in recognition of outstanding selling achievements during 1929.

These men are the "Trip to Dayton" winners, whose names were announced at the regional conventions early in the year. All of them won the special honor by selling more than 125 per cent of their quota last year.

A one-day convention and party will be held for the visiting selling men at Dayton on May 29, when they will be taken through the factories and tendered a banquet in the evening. Following the banquet, which will be featured by a number of entertainment specialties, they will board two special trains, which will take them directly to the Speedway track at Indianapolis.

A block of 500 seats—largest ever sold to one organization—has been reserved by Frigidaire Corporation for its guest salesmen. E. G. Biechler, president and general manager, will head the party of officials who will accompany the salesmen to the races.

COPELAND SEEKS RECORD

(*Concluded from Page 1, Column 1*)

mand for and the interest in electric refrigeration is greater than we have ever experienced.

"The rate in which large-lot orders keep coming into our factory shows no signs of diminution, and certainly is an index not only of the fashion in which electric refrigeration is gaining in public favor, but of the reception Copeland's 1930 line is being given. Instead of decreasing in size, as might be expected, they are, if anything, increasing."

GARDNER POOLE HONORED BY REFRIGERATION MEN

Washington, D. C.—Gardner Poole of Boston, Mass., was elected president of the American Institute of Refrigeration at its annual convention held here, May 1-2. Others named to office were: A. H. Baer, Waynesboro, Pa., 1st vice-president; G. A. Pardee, Louisville, Ky., 2nd vice-president; J. A. Mooney, Philadelphia, Pa., treasurer; J. F. Nickerson, Chicago, Ill., general secretary, and Louis Baron, New York City, executive secretary.

At the second day's session, J. M. Fernald, commercial sales manager for Kelvinator Corporation, Detroit, Mich., presented a paper on "Development of Household Refrigerating Machines."

PEERLESS CONCENTRATING ON RESTAURANT BUSINESS

(*Concluded from Page 1, Column 3*)

and its base requires only 21 x 36 inches of floor space.

The Peerless cooling fan is made in four types at present. The pedestal type is most popular because it is easily and quickly installed on the floor wherever wanted. Other types are wall bracket mounting, ceiling suspension and wall insert mounting. Every model is compact and attractively finished to harmonize with any color scheme or decoration used. All ice machine, wiring and drain pipe connections are concealed from view, and only the stand and frame are visible. A feature of the Peerless cooling fan is the fact that many units can be connected in multiple to a single ice machine in larger installations.

Economies in manufacture and volume production have brought the price of the Peerless cooling fan within the reach of the average store and home owner. In its present plans to concentrate on commercial sales the Peerless company will develop and organize an efficient dealer and distributor organization to satisfy the huge potential demand for air cooling machines in the home.

PURCHASING AGENT

O. G. Lomskey

Mt. Clemens, Mich.—The appointment of O. G. Lomskey as purchasing agent has been announced by President Louis Ruthenburg, of Copeland Products, Inc. He succeeds C. Kramer, who has resigned. Lomskey formerly was assistant purchasing agent and previously was traffic manager. He has been with the Copeland organization since 1926.

NEW SERVICE COMPANY

Mercerville, N. J.—Frezon Refrigeration Service has been organized here to handle installations, alterations and repairs on all makes of machines in central New Jersey and eastern Pennsylvania.

For Automatic Refrigeration Manufacturers

Whatever you require in copper, brass, bronze, or copper alloys, we are prepared to furnish on contract either parts or sub-assemblies ready for installation in your unit. Boilers, compression nuts, filters, floatballs, condensers, special nipples, bellows and thermostats, and a large variety of other standard parts.
Let us quote on your requirements.

BRIDGEPORT BRASS CO.
General Offices and Plant
Bridgeport, Conn.
Offices in Principal Cities
"Bridgeport" BRASS CO. TRADE MARK

AIR COOLING
By the PEERLESS COOLING FAN

The First Reliable Cooling Unit at a Moderate Price for the Needs of the Average Store, Office, Club or Home. Requires 21″ x 26″ of Floor Space.

A MATCHLESS OPPORTUNITY

for the dealers and distributors who are alive to the profit opportunity presented by this virgin field of refrigeration. If you have an organization that is eager and able to lead the march of scientific and mechanical progress for your own profit, investigate this proposition immediately.

11 Reasons Why
The Peerless Cooling Fan Sells Itself

1. Chills the air 8 to 16 degrees.
2. "Wrings out" discomfort causing humidity.
3. Directs a stream of cool, dry air where it is needed.
4. Ventilates as well as cools.
5. Low in cost, economical in operation.
6. Pays for itself in increased profits.
7. Small, light, compact.
8. Easy to install.
9. Dependable in operation.
10. Attractive in appearance.
11. Produces energy creating atmosphere.

The Peerless Air Cooling Fan takes the full capacity of a one-ton ice machine and may be connected in multiple to a larger ice machine for installations in large rooms. Seventeen years of manufacturing ice machines is your guarantee of satisfactory operation.

PEERLESS ICE MACHINE CO.
515 W. 35th St., » » » » CHICAGO

WRITE FOR DETAILS

This is a National Message to the American Housewife

Good Housekeeping Institute
Recommends Proper arrangement of foods in your refrigerator, and KVP advises the use of Proper Papers for food wrapping and protection. There is a big difference—to get the most good out of your refrigerator are you using both KVP Refrigerator Papers?
There's Household Parchment for cooking and for wrapping all greasy, moist and wet foods—it's boil-proof—it wears—use it again and again. KVP Heavy Waxed Paper "Cutter Box" seals tight (one sheet will do)—keeps the moisture in or keeps the moisture out as desired. Remember, all foods should not be wrapped in Waxed Paper—for 100% results use the famous pair of KVP food wrapping and cooking papers.
Try your Grocer, Stationer, Hardware, Department Store and Naborhood Merchant first; if they cannot serve you, KVP will pay the parcel post.
Send $1.00 for the two big 50c rolls (West of Missouri and South Coast States, 60c per roll, both for $1.20 postpaid).
FREE When ordering, mention this ad for a Miracle Paper Dish Rag and interesting samples for you and your friends.
KVP STANDS FOR "THE WORLD'S MODEL PAPER MILL"
KALAMAZOO VEGETABLE PARCHMENT CO.
KALAMAZOO MICHIGAN U.S.A.
MANUFACTURING WORLD-WIDE FAMOUS FOOD PROTECTION PAPERS

IF you are in any way interested in Electric or Gas Refrigeration ...read the above over twice because it will mean much to you. .. this is our National message to the American Housewife in cooperation with your refrigerator sales campaigns. Write for samples and advertising ideas that sell your refrigerators to new customers and keep old customers interested.

SERVEL SCHOOL WIDENS ITS SCOPE OF ACTIVITIES

THE May service school for Servel distributors' and dealers' service men is now under way at the factory in Evansville.

This is the second class to occupy the new school quarters. Every necessity to train service men how to do a thorough and complete job is included in the new service school quarters just opened by Servel at the Evansville plant.

While Servel has always conducted these training courses for its distributor and dealer men, the new school provides accommodations for the rapidly growing classes, and permits of a much wider scope of activities.

The course is thorough and complete in every respect. It starts with an advance mailing to each registered student of a pamphlet on the "Elementary Principles of Refrigeration," as applied to Servel, which the student is requested to study before arrival. This material is reviewed and enlarged upon in blackboard talks.

Complete instruction in installation, trouble location and correction, is, of course, given, not only in theory, but in actual practice. If a problem comes up which needs clarifying, the entire class adjourns to the lecture room—equipment on casters is rolled in, and the subject thrashed out.

Since the Servel product employs three or four types of pressure controls, each student that attends school is given an opportunity to adjust and dismantle the various types of these accessories. The adjusting of these controls is thoroughly covered in Servel service manuals, and, therefore, after the student returns to the field, he can, if necessary, review this phase of instruction he received while at school.

Each student is instructed as to the use of the compressor pump-up assembly. This assembly is used for the purpose of testing the volumetric efficiency of compressors after they have been overhauled. The compressor is connected to a standard pump-up cylinder, and each size of compressor in a predetermined time must obtain a predetermined pressure on this standard cylinder. This indicates whether or not the piston rings, suction or discharge valves are leaking, and also gives evidence as to the quietness of the compressor. The wattage also is noted, and if abnormally high, the compressor must be dismantled and trouble corrected.

Although each student is given an opportunity of installing domestic equipment in actual refrigerators, it has been found that the operation of the equipment is more clearly understood when racks are used, and the student has an opportunity to actually make up his own connecting tubing. Aside from this, the student can work on these installations standing upright, and can diagnose difficulties under the most desirable condition.

Each student is given an opportunity to actually perform shop repairs on compressors, pressure controls, etc. His instructions also include the proper lapping of discharge valves, bellows type seals and seal rings, and the testing of assemblies that have been repaired, submerged under pressure. Students are constantly rotated from one type of work to another until they have obtained all phases of the work.

Aside from the actual installing of commercial machine units in connection with chilling sections, students are given information as to the proper installation of chilling sections in refrigerators. Although installing sections in the open gives the student an opportunity to more clearly understand the cycle of operation, his commercial instruction includes the spacing of chilling sections, the baffling of refrigerators, and the proper application of machine units and chilling sections to refrigerators, counters, etc.

After students have been given ample time to perform domestic installations and understand them in every detail, these domestic refrigerators are connected up in multiple to give them a working knowledge of multiple installations. They are likewise instructed as to the installation of multiple hook-ups in conduit, and as part of their education they are shown sample installations that the Evansville Service Department has made in and around Evansville.

Although in the field, the commercial installations as far as electrical connections are concerned are usually performed by the local electrician, students are given a thorough knowledge of standard across-the-line magnetic switches. This enables them to check up on the electrician and, in fact, perform the work themselves in the event an electrician is not available.

Experience indicates that students more readily absorb information relative to the working parts of refrigerating equipment if they are furnished cutaway parts instead of blue prints. While the average student that attends the school can read blue prints, the cutaway part makes the equipment much more clear and its operation is considerably simplified. When lecture instructions are given as reference is made to various parts, a cut-away of this part is shown to the class and reference made directly to it. With a picture in his mind as to what takes place in the compressor, float valve, chilling unit, expansion valve, pressure control, water valve, etc., the student can very readily understand the operation of Servel.

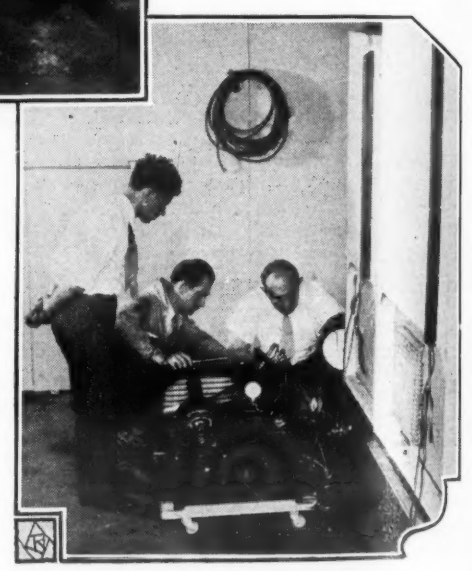
A spacious, well-lighted, well-ventilated lecture room is part of the Servel Service School. Comfortable arm chairs are furnished, and the theory of refrigeration is given students by means of blackboard talks.

Carl Olin, in charge of service, and S. R. Cooper, service instructor, were largely responsible for the design and equipment of the new quarters, as well as for the improved course of study now in effect.

Blackboard Lessons Popular

Servel's new lecture room where the theory of mechanical refrigeration is presented via the blackboard

(Left) Electrical connections on Servel commercial refrigerating machines are studied by the service men at the school.



(Right) Students are given ample time to perform domestic installations. They also learn how multiple installations are hooked up.

THERE IS NO POSSIBILITY OF REFRIGERANT SEEPAGE

in your Multiple Installations when you use

THE MUELLER MANIFOLD

Mueller Manifold for Multiple Installations

This manifold is furnished with 1-4 in., 3-8 in. or 1-2 in. angle valves which are securely sweated to the header. The header is of a special alloy, seamless drawn, square brass tubing. It is designed particularly to withstand high pressure.

Mounting clips are furnished with each set.

Flared tube nuts are assembled on each outlet at the time of manufacture to protect the accurately machined seats and to insure perfect contact for the tubing.

Valves are equipped with combination wing seal cap and wrench for convenience of operation and safety when not in use.

WE MANUFACTURE A COMPLETE LINE OF VALVES AND FITTINGS AND CAN SUPPLY YOUR EVERY REQUIREMENT

Mueller Valves and Fittings are approved by the Underwriters' Laboratories of Chicago.

Mueller Brass Co.

PORT HURON, MICHIGAN

THREE GENERATIONS OF BRASS MAKING

DRY DRIER DRIEST

SULPHUR DIOXIDE

for Direct Charging

"Ansul" Sulphur Dioxide is scientifically dried through a four stage dehydrating system, each stage being composed of three units in series. Absolute manufacturing control is maintained throughout.

Also ton drums and tank cars

Every Cylinder Analyzed Pure Bone Dry

ANSUL CHEMICAL CO.

MARINETTE, WISCONSIN

OMAHA REFRIGERATION CODE IS NOW IN EFFECT

Omaha, Nebr.—After a struggle of over six months, the City Council of Omaha passed an ordinance regulating the installation and operation of all refrigeration units using any of the following refrigerants: carbon dioxide, ammonia, methyl chloride, sulphur dioxide, iso-butane, ethyl chlorine, methylene chloride.

The code was adopted by the City Council at a meeting held April 28, and of effect fifteen days following. The code became effective midnight of May 14. The code adopted is satisfactory to all the dealers here as well as both factories, that of the Baker Ice Machine Company and the IcElect Corporation, the former manufacturing ammonia machines and the latter sulphur dioxide. Here is the code in full that is now in effect in Omaha:

ORDINANCE NO. 13799

An Ordinance Regulating the Installation and Maintenance of Refrigeration Units in the City of Omaha, and Repealing All Ordinances or Parts of Ordinances in Conflict Herewith.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF OMAHA:

Section 1. No installation of a refrigerating unit or system containing in excess of 20 pounds of refrigerant shall be made until a permit has been obtained from the Building Department of the City, except that no permit shall be required for noncondensing refrigerating systems using air as a refrigerant.

Section 2. Except in plants used exclusively for ice making, refrigeration, or cold storage, no system containing over 100 pounds of irritant or flammable refrigerant shall be installed unless it conforms to the following provisions.

(a) Refrigeration shall be by the indirect method, except that direct refrigeration may be permitted in rooms, vaults or other spaces used for storage only, or in connection with a manufacturing process located on the ground floor only and with adequate exit facilities. No brine circulating system employing a brine having a flash point below 100 degrees F. shall be permitted in any location in which an indirect system is permissible.

(b) Each compressor shall be in a special machinery room with suitable exit to the outside. Adequate means for ventilation shall be provided by a door or window opening to the outside or a mechanical system of ventilation shall be provided.

(c) Remote control shall be provided such that all machinery can be shut down without entering the machinery room.

(d) Suitable mask shall be provided, which shall be kept in operative condition in an easily accessible case or cabinet immediately outside the machinery room.

(e) All doorways between the machinery room and other parts of the building shall be normally closed and shall be tight fitting. No other openings between the machinery room and other parts of the building shall be permitted.

(f) No open flame or spark producing device shall be permitted in any refrigerating machinery room with a system containing a flammable refrigerant.

Section 3. (a) No system containing over 1,000 pounds of refrigerant having a flash point below 25 degrees F. shall be permitted within the following limits: (Boundary limits should include the mercantile and closely built residential sections)

(b) No system of the intermittent absorption type containing over 1,000 pounds of refrigerant shall be permitted, and no system of the intermittent unless the heating medium is low pressure steam.

Section 4. (a) All refrigerating piping, tubing and fittings shall be of a material suitable for the refrigerant employed.

(b) Standard wall thickness pipe may be used where a test pressure of 300 pounds or less is required; where the test pressure is in excess of 300 pounds extra heavy pipe shall be used. If flanged fittings are used they shall be of the recessed gasket type. Piping shall be rigidly secured in place.

(c) Approved seamless metal tubing of copper or other material suitable for the refrigerant may be used for refrigerant lines in systems containing not over 100 pounds of refrigerant.

(d) Elevator, dumbwaiter or other shafts containing moving objects shall not be used for outlet or junction boxes, nor for tubing or piping carrying refrigerant.

(e) Systems having more than 20 pounds charging capacity and systems supplying two or more evaporators, and using seamless metal tubing for refrigerant lines, shall have all such tubing, except between the compressor and the nearest riser box or manifold, installed in iron pipe or other metal enclosure, with suitable metal outlet boxes for manifolds and for all valves except those at the evaporators. Flexible metal enclosures may be used at bends or at terminals if not exceeding 6 feet in length and rigidly fastened to connecting pipe and on valve boxes. Each run of pipe shall be sealed or plugged at each junction box inlet with a material not affected by moisture or the temperature of the line. All joints shall be accessible and shall be of sweated type, except that flared joints may be used for tubing not more than ⅝ inch in diameter and where the required test pressure does not exceed 180 pounds. Enclosures shall be rigidly secured to the walls or other support. Tubing shall be independently supported in such a manner as to prevent excessive vibration and strains at joints and connections. Valves, service connections and joints in tubing shall be rigidly secured in suitable metal boxes at accessible points.

Section 5. No system shall be placed in operation until the complete installation has been tested by the installer in the presence of the authority enforcing this code. A certificate of approval shall be posted on the premises where the system is installed. Tests shall include a vacuum test of the complete pipe system, preferably with the evaporators installed, but valves thereon may be closed to prevent withdrawal of the refrigerant; under this test a vacuum of 20 inches of mercury shall be placed upon the system and shall be held for a period of 20 minutes, with no detectable drop, after the pump has been stopped.

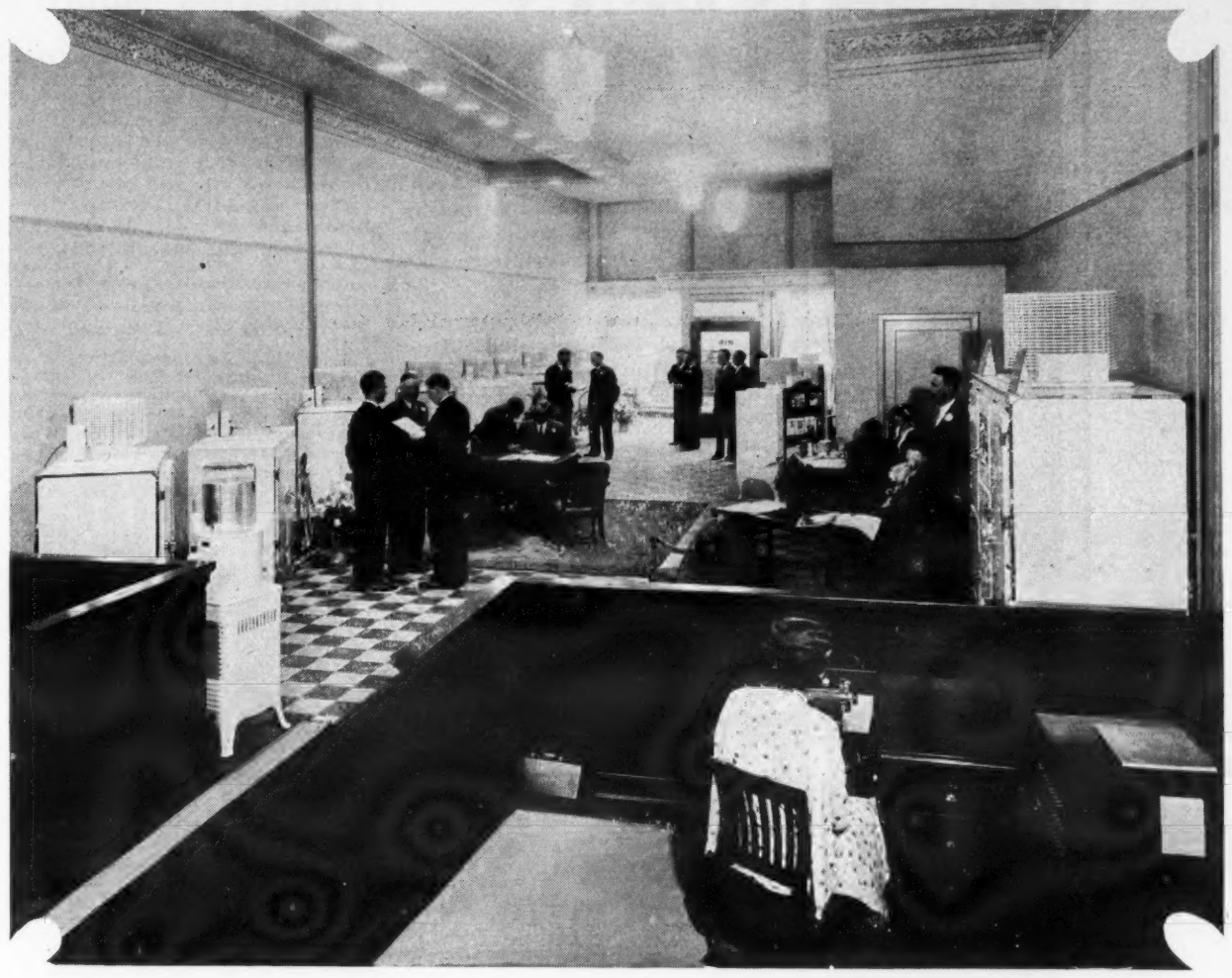
After the vacuum test, the system of piping shall be tested by the application of the pressure indicated in the table below:

Refrigerant Used	Test Pressures High Side Part Lbs. per Sq. Inch.	Low Side Part Lbs. per Sq. Inch
Carbon dioxide	1500	750
Ammonia	300	150
Methyl chloride	180	80
Sulphur dioxide	135	50
Iso-butane	130	50
Butane	75	35
Ethyl chlorine	50	25
Methylene chloride	15	15

Section 6. In systems exceeding 20 pounds capacity, the compressor, if not located in a machinery room, shall not

(Concluded on Page 13, Column 4)

Lighting Important in New Laidley Salesroom



Laidley Company, G. E. distributors, opened its well lighted display room recently in Spokane, Wash.

Building PROFITS *for Our* Dealers *and* Satisfaction *for Their* Customers

After all, the best cooperation a manufacturer can give his dealers, is to deliver to them a product that is easy to sell and that gives complete satisfaction after it is sold.

At least, that's the way we feel about it. And that's the way most of our dealers feel. They have found through experience, the only kind of profit that remains in the bank is the profit coming from the sale of a product that requires a minimum amount of servicing. You'll find we have designed the Wayne with this fact in mind. The scientific design and painstaking construction of the unit is the foundation of the Wayne superiority. In addition, of course, there are innumerable other advantages. Exquisitely designed cabinets in a long range of color schemes. Each cabinet insulated with Dry Zero—but, let us send you the complete information on this profit building refrigerator. Write us today. We'll send you all the details, together with an outline of our proven Selling Plan.

THE WAYNE HOME EQUIPMENT CO., FORT WAYNE, INDIANA

WAYNE ELECTRIC REFRIGERATOR

Further information on Die-Pressed Parts on request, or a representative will call at your convenience. Sample parts showing quality and finish gladly forwarded. Quotations may be secured by sending blue-prints, sketches or models of parts desired, stating quantities.

ANACONDA from mine to consumer

Speed up production with

ANACONDA

DIE-PRESSED PARTS

ANACONDA Die-Pressed Parts speed up production because their close dimensions minimize machining, and because their smooth, fine-grained surface permits finishing or polishing at much higher rates than are possible with castings.

The absence of spills and blow-holes found in sand castings reduces rejections, which are particularly costly when the hidden defects are revealed only after considerable machining. Anaconda Die-Pressed Parts are gas, air and watertight, and have nearly twice the strength of ordinary castings.

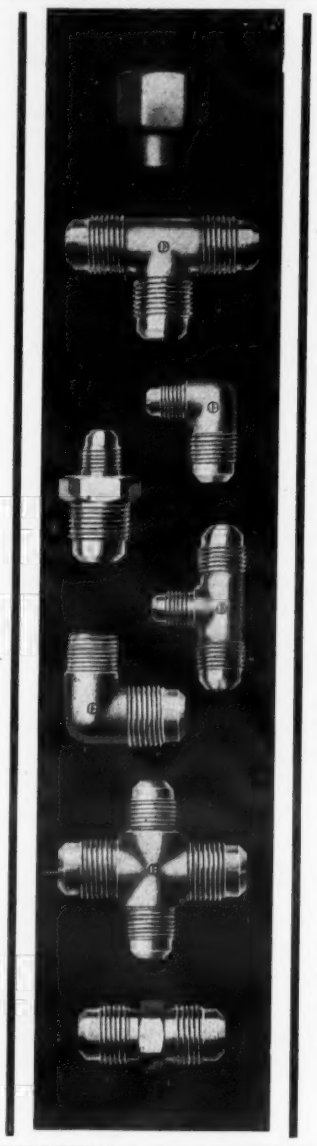
In addition to Die-Pressed Parts, The American Brass Company produces Anaconda Copper, Brass and Bronze in every variety of sheets, wire, rods and tubes. These are used extensively in the manufacture of valves and fittings; condensers, evaporators and their component parts; ice-trays, cabinet trim, mouldings, hardware and miscellaneous screw machine products.

THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Connecticut
Offices and Agencies in the Principal Cities
Canadian Mill: Anaconda American Brass Ltd.
New Toronto, Ontario

ANACONDA

COPPER ANACONDA BRASS



BUILT RIGHT TO STAY TIGHT

CLEAN FITTINGS

THERE are no chips in Commonwealth Brass fittings to make installation harder . . . they're clean when they reach you.

Every Commonwealth Fitting is blown out with 80 pounds of air pressure which removes all the chips. To further ensure their reaching you in perfect condition each tube seat is protected by a cardboard ferrule.

Extraordinary care has always been exercised in the making of Commonwealth Seepage-Proof Fittings for the automatic refrigeration industry. They are "Built Right—to Stay Tight."

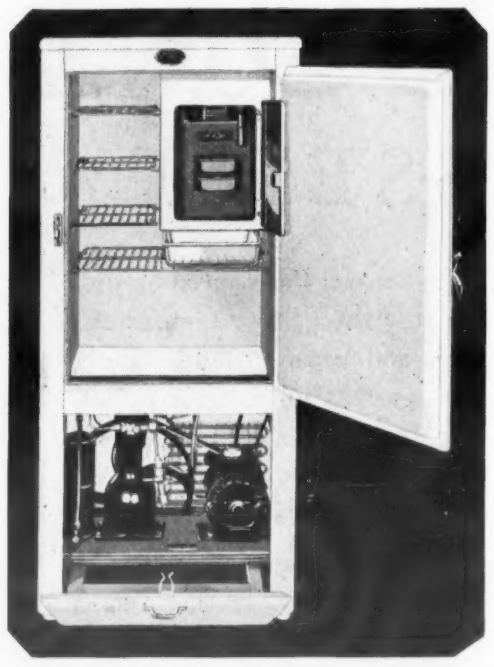
For the most complete line of automatic refrigeration fittings in every wanted size and dimension

Send for Our
CATALOG NO. 36

COMMONWEALTH BRASS CORPORATION

COMMONWEALTH AT G. T. R. R.
DETROIT, MICH.

The Leader *a new* Universal Cooler



~ that is finding a *ready* market

REFRIGERATOR prospects are instantly attracted to this new LP-H40 model Universal Cooler. It is just the right size for the majority of apartments and homes—is self contained and is shipped completely assembled ready to be connected to any convenient light socket. It has pleasing lines, porcelain interior, satin finish hardware, temperature control, 8 square feet of shelf area and is a marvel for quietness, economy and durability. And—last but not least, it is surprisingly low in price.

Complete information on request

Universal Cooler Corporation

Detroit, Mich. - - - Windsor, Ontario, Canada

NEW HAVEN ADOPTS CODE PERMITTING MULTIPLES

New Haven, Conn.—An ordinance regulating the installation of refrigerating systems in apartment buildings, markets and factories has been passed by the board of aldermen and becomes part of the municipal code. The ordinance gives greater power and control to the bureau of fire prevention over refrigerating plants where ammonia is used, as well as standardizing installations.

An Ordinance Regulating the Installation of Refrigerating Systems in the City of New Haven.

Section 1. No installation of a refrigerating unit or system containing in excess of twenty pounds of refrigerant shall hereafter be made until a permit has been obtained from the bureau of fire prevention, except that no permit shall be required for non-condensing refrigerating systems using air as a refrigerant.

Sec. 2. Except in plants used exclusively for ice making, refrigeration or cold storage, no system containing over one hundred pounds of irritant or flammable refrigerant shall be installed unless it conforms to the following provisions:

(a) Refrigeration shall be by the indirect method, except that direct refrigeration may be permitted in rooms, vaults or other spaces used for storage only, or in connection with a manufacturing process located on the ground floor only and with adequate exit facilities. No brine circulating system employing a brine having a flash point below 100° F. shall be permitted in any location where an indirect system only is permissible.

(b) Each compressor shall be in a special machinery room with suitable exit to the outside. Adequate means for ventilation shall be provided by a door or window opening to the outside or a mechanical system of ventilation shall be provided.

(c) Remote control shall be provided such that all machinery can be shut down without entering the machinery room.

(d) Suitable mask shall be provided, which shall be kept in operative condition in an easily accessible case or cabinet immediately outside the machinery room.

(e) All doorways between the machinery room and other parts of the building shall be normally closed and shall be tight fitting. No other openings between the machinery room and other parts of the building shall be permitted.

(f) No open flame or spark producing device shall be permitted in any refrigerating machinery room with a system containing a flammable refrigerant.

Sec. 3. No system containing over one thousand pounds of refrigerant having a flash point below 25° F. shall be permitted within the fire district.

(b) No system of the intermittent absorption type containing over one thousand pounds of refrigerant shall be permitted and no system of the intermittent absorption type containing over one hundred pounds of refrigerant shall be permitted unless the heating medium is low pressure steam.

Sec. 4. All refrigerating piping, tubing and fitting shall be of a material suitable for the refrigerant employed.

(b) Standard wall thickness pipe may be used where a test pressure of three hundred pounds or less is required; where the test pressure is in excess of three hundred pounds extra heavy pipe shall be used. If flanged fittings are used they shall be of the recessed gasket type. Piping shall be rigidly secured in place.

(c) Approved seamless metal tubing of copper or other material suitable for the refrigerant may be used for refrigerant lines in systems containing not over one hundred pounds of refrigerant.

(d) Elevator, dumbwaiter or other shafts containing moving objects shall not be used for outlet or junction boxes, nor for tubing or piping carrying refrigerant.

(e) Systems of more than twenty pounds capacity or systems supplying two or more evaporators in two or more refrigerated spaces and using seamless metal tubing for refrigerant lines, shall have all such tubing, except between the compressor and the nearest riser box or manifold installed in iron pipe or other metal enclosures, with suitable metal outlet boxes for manifolds and for all valves except those at the evaporators. Flexible metal enclosures may be used at bends or at terminals if not exceeding six feet in length and rigidly fastened to connecting pipe or valve boxes. Each run of pipe shall be sealed or plugged at each junction box inlet with a material not affected by moisture or the temperature of the line. All joints shall be accessible and shall be of sweated type, except that flared joints may be used for tubing not more than five-eighths of an inch in diameter and where the required test pressure does not exceed one hundred eighty pounds. Enclosures shall be rigidly secured to the walls or other supports. Tubing shall be independently supported in such a manner as to prevent excessive vibration and strains at joints and connections. Valves, service connections and joints in tubing shall be rigidly secured in suitable metal boxes at accessible points.

Sec. 5. No system shall be placed in operation until the complete installation has been tested by the installer in the presence of the authority enforcing this code. A certificate of approval shall be posted on the premises where the system is installed. Tests shall include a vacuum test of the complete piping system, preferably with the evaporators installed but valves thereon may be closed to prevent withdrawal of the refrigerant; under this test a vacuum of twenty inches of mercury shall be placed upon the system and shall be held for a period of twenty minutes, with no detectable drop, after the pump has been stopped.

After the vacuum test, the system of piping shall be tested by application of the pressure indicated in the table below.

Refrigerant Used	Test Pressures High Side Part Lbs. per sq. in.	Low Side Part Lbs. per sq. in.
Carbon Dioxide	1500	750
Ammonia	300	150
Methyl Chloride	180	80
Sulphur Dioxide	135	50
Iso-butane	130	50
Butane	75	35
Ethyl Chloride	50	25
Methylene Chloride .	15	15

Sec. 6. In systems exceeding twenty pounds capacity, the compressor, if not located in a machinery room, shall not be located under stairways or near dumbwaiter or elevator shafts; shall be located as nearly beneath the riser as practicable; shall preferably not be in a room containing storage of cumbustible material; shall in any case be located at least ten feet from such storage; shall be located in an accessible part of the building with adequate lighting facilities provided; and shall be protected against mechanical injury by a non-combustible partition or by a heavy metal netting secured to two by four inch wooden studding or to metal posts.

Sec. 7. Shut-off valves shall be installed at each service outlet in pressure and return lines and in each riser or manifold connection at or near the compressor. These valves shall be fitted with a hand wheel or other means of ready operation as an integral part thereof. Valves in service connections shall be located outside of the refrigerant space and at such distance above the floor as will provide ready accessibility.

Evaporators which may be removed as a unit shall have valves permitting the removal of the evaporator with valves attached.

SERVICE CONNECTION

Sec. 8. (a) Not more than a single tenant shall be supplied from an outlet box on a main riser. Such outlet box shall be located within premises of the tenant served and so arranged as to be accessible at all times.

(b) No outlet or junction box shall be permitted in any hallway, stairway, or vertical shaft not cut off at each story.

(c) Every refrigerator shall be rigidly secured in place.

Sec. 9. Every system containing more than twenty pounds of refrigerant which operates above atmosphere pressure and every water cooled system containing more than twenty pounds of refrigerant and capable of producing a pressure in excess of the test pressure shall be provided with a pressure limiting device.

Sec. 10. Each system containing over one hundred pounds of refrigerant shall have compressor or generator protected by a pressure relief valve connected into the high pressure side between main stop valve and the compressor or generator to relieve excessive pressure into the low pressure side of the system or to the atmosphere. Where discharge is to the low pressure side, a relief valve shall be provided on the low pressure side of the system. In addition to the above stated relief valves a high pressure cut-out shall be provided on the high side which will break electrical contact at excessive head pressure.

Sec. 11. No stop valve shall be located between the pressure relief device or pressure limiting device and the part of the system protected thereby, unless two pressure relief devices of required size are used, and so arranged that only one pressure relief valve device can be shut off for repair purposes at any one time.

Sec. 12. Systems exceeding twenty pounds capacity shall have a pressure relief device on shell type apparatus, such as liquid separators, liquid receivers, condensers, evaporators and absorbers, which can be shut off by stop valve. Such discharge from the pressure relief device shall be to either the atmosphere or a suitable tank of water as specified in Section 13.

Sec. 13. (a) Every system containing more than one hundred pounds of refrigerant shall be provided with a hand-operated relief valve for discharging the refrigerant in case of fire, either to the atmosphere or to a suitable tank of water, constructed for such discharge purposes. Such tank or mixer shall be constructed of not less than one-eighth (⅛) inch or No. 11 U. S. Gauge iron and shall be capable of withstanding a pressure of at least fifty pounds per square inch. Said tank or mixer to be located in a location approved by the bureau of fire prevention.

(b) At least one gallon of fresh water shall be provided for every pound of refrigerant contained in the system. The water used shall be prevented from freezing without the use of salt or chemicals. No horizontal dimension of the tank shall be greater than one-half the height. The tank shall have a hinged cover or if of the enclosed type shall have a vent hole at the top. All pipe connections shall be through the top of the tank only. The dicharge from the pressure relief valve shall discharge the refrigerant in the center of the tank near the bottom. The tank shall be as securely supported as any other portion of the system. There shall be no opening in the tank below the water level.

(c) For systems containing irritant or flammable refrigerants, the discharge to the atmosphere shall be through a proper diffuser above the roof of buildings within fifty feet. A hand-operated relief valve shall be provided so that all machinery can be shut down without entering the machinery room. Such hand-operated relief valve to be located in suitable control box in hall or vestibule of the nearest outside entrance door to refrigeration room. Such control box to be plainly marked in red letters one inch high on white background "Main Control Box Refrigerating System."

(d) A rupture member may be substituted for the relief valve in carbon dioxide systems or systems operating below atmospheric pressure. Carbon dioxide may be discharged into the room if said room contains at least ten cubic

(*Concluded on Opposite Page*)

Trip to Detroit is Their Reward

Detroit, Mich.—Headed by H. E. Markland, manager of the Cleveland branch, a delegation of 30 retail salesmen arrived in Detroit Monday morning, April 28, for a short visit to the Kelvinator factory.

The trip of the Cleveland salesmen was a reward for having led the Cleveland district in sales volume during an eight weeks' contest sponsored by the Cleveland branch. The contest was based on the point system. Every man was required to earn his way completely, from the smallest transportation charge down to tips. Those who did not earn enough points to pay for all of the comforts of the trip were required to meet the additional expense themselves or forego the pleasures the leaders enjoyed. For example, upon leaving Cleveland the men who had amassed sufficient points to cover every item of expense were transported from the showroom to the dock in taxis. Those who lacked quite enough points were loaded into trucks and freighted to the dock; while those who earned by points just enough to make the trip were required to hoof it from the showroom to the dock.

NEW HAVEN CODE

(Concluded from Opposite Page)

feet of capacity per pounds of refrigerant used.

Sec. 14. Systems using in excess of one thousand pounds of ammonia shall be provided with a hand-operated valve for discharging the ammonia into water through a mixing line to sewer in case of emergency.

(b) No valve shall be located in the ammonia emergency discharge line except the manually operated valve discharging into the water and ammonia mixer but there may be one stop valve located inside the building for repair purposes only. This valve shall be sealed "Open" and labelled "Keep Open."

(c) The manually operated pressure relief valve shall be located in a locked box which can be opened by members of the fire department, by means of a fire department key. The door of the box shall be on the public thoroughfare side of the building in an easily accessible location and not less than eighteen inches or more than five feet above the sidewalk level. The box shall be permanently labelled having letters of not less than one inch reading "For Fire Department Use Only." The relief valve shall be labelled "Ammonia." A sign shall be posted within the box reading "Do Not Open Valve Until Water Is Flowing."

(d) A two and one-half inch fire department connection shall be provided through which the necessary water may be supplied to the mixer. The fire department connection shall be located near the box and shall be not less than eighteen inches or more than twenty-four inches above the sidewalk level and it shall be permanently labelled having letters not less than one (1) inch high reading "To Ammonia Mixer." A check valve so set as to prevent gases from reaching the fire department connection shall be installed in the water line between the fire department connection and water and ammonia mixer.

(e) The fire department shall have the sole use of the mixer and shall supply the necessary water for same.

PART II

ALL EXISTING REFRIGERATING SYSTEMS CONTAINING ONE HUNDRED OR MORE POUNDS OF REFRIGERANT NOW INSTALLED IN THE CITY OF NEW HAVEN SHALL CONFORM TO THE FOLLOWING RULES AND REGULATIONS

Section 1. Each compressor shall be in a special machinery room with suitable exit to the outside. Adequate means for ventilation shall be provided by a door or window opening to the outside or a mechanical system of ventilation shall be provided.

(b) Remote control box shall be provided so that all machinery can be shut down without entering the machinery room. Such remote control box to be located in hall or vestibule of the nearest outside entrance door to refrigeration room, except that this provision shall not apply to steam driven refrigerating systems where a competent person is in constant attendance and renders continuous supervision for twenty-four hours. Such remote control box to be plainly marked in red letters on white background "Main Control Switch Refrigerating System."

(c) Suitable mask shall be provided, which will be kept in operative condition in an easily accessible case or cabinet immediately outside the machinery room.

Sec. 2. Every system containing more than one hundred pounds of refrigerant shall be provided with a hand-operated relief valve for discharging the refrigerant in case of fire, either to the atmosphere or to a suitable tank of water, constructed for such discharge purpose. Such tank or mixer shall be constructed of not less than one-eighth inch or No. 11 U. S. Gauge Iron and shall be capable of withstanding a pressure of at least fifty pounds per square inch. Said tank or mixer to be located in a location approved by the bureau of fire prevention.

(b) At least one gallon of fresh water shall be provided for every pound of refrigerant contained in the system. The water used shall be prevented from freezing without the use of salt or chemicals. No horizontal dimension of the tank shall be greater than one-half the height. The tank shall have hinged cover or if of the enclosed type shall have a vent hole at the top. All pipe connection shall be through the top for the tank only. The discharge from the pressure relief valve shall discharge the refrigerant in the center of the tank near the bottom. The tank shall be as securely supported as any other portion of the system. There shall be no opening in the tank below the water level.

(c) For systems containing irritant or flammable refrigerants the discharge to the atmosphere shall be through a proper diffuser above, the roof of the buildings within fifty feet. A hand-operated relief valve shall be provided so that all machinery can be shut down without entering the machinery room. Such hand-operated relief valve to be located in suitable control box in hall or vestibule of the nearest outside entrance door to refrigerating room. Such control box to be plainly marked in red letters one inch high on white background "Main Control Box Refrigerating System."

(d) A rupture member may be substituted for the relief valve in carbon dioxide systems or systems operating below atmospheric pressure. Carbon dioxide may be discharged into the room if said room contains at least ten cubic feet of capacity per pound of refrigerant used.

Sec. 3. Systems using in excess of one thousand pounds of ammonia shall be provided with a hand-operated relief valve for discharging the ammonia into water through a mixing line to sewer in case of emergency.

(b) No valve shall be located in the ammonia emergency discharge line except the manually operated valve discharging into the water and ammonia mixer but there may be one stop valve located inside the building for repair purposes only. This valve shall be sealed "Open" and labelled "Keep Open."

(c) The manually operated pressure relief valve shall be located in a locked box which can be opened by members of the fire department, by means of a fire department key. The door of the box shall be on the public thoroughfare side of the building in an easily accessible location and not less than eighteen inches or more than five feet above the sidewalk level. The box shall be permanently labelled having letters of not less than one inch reading "For Fire Department Use Only." The relief valve shall be labelled "Ammonia." A sign shall be posted within the box reading "Do Not Open Valve Until Water Is Flowing."

(d) A two and one-half inch fire department connection shall be provided through which the necessary water may be supplied to the mixer. The fire department connection shall be located near the box and shall be not less than eighteen inches or more than twenty-four inches above the sidewalk level and it shall be permanently labelled having letters not less than one inch reading "To Ammonia Mixer." A check valve so set as to prevent gases from reaching the fire department connection shall be installed in the water line between the fire department connection and water and ammonia mixer.

(e) The fire department shall have the sole use of the mixer and shall supply the necessary water for same.

Sec. 4. Systems exceeding twenty pounds capacity shall have a pressure relief device on shell type apparatus, such as liquid separators, liquid receivers, condensers, evaporators and absorbers, which can be shut off by stop valve. Such discharge from the pressure relief device shall be either to the atmosphere or a suitable tank of water as specified in Section 12.

Every person, firm or partnership, corporation or its agents, engaged in the business of installing refrigeration equipment who shall neglect to obtain a permit in conformity with this refrigeration ordinance or who shall violate any of the provisions of any section thereof shall be guilty of a misdemeanor and upon conviction after complaint to the city attorney, shall be punished by a fine of not more than one hundred dollars for each offense.

OMAHA ORDINANCE

(Concluded from Page 11, Column 2)

be located under stairways, or under dumbwaiter or elevator shafts; shall be located as nearly beneath the riser as practicable; shall preferably not be in a room containing storage of combustible material; shall in any case be located at least 10 feet from storage; shall be located in an accessible part of the building with adequate lighting facility provided, and shall be protected against mechanical injury by a noncombustible partition, or by heavy metal netting secured to two by four-inch wooden studding or to metal posts.

Section 7. Shut-off valves shall be installed at each service outlet in pressure and return lines, and in each riser or manifold connection at or near the compressor. These valves shall be fitted with a hand wheel or other means of ready operation as an integral part thereof. Valves in service connections shall be located outside of refrigerating unit and at such distance above the floor as will provide ready accessibility. Evaporators which may be removed as a unit shall have valves permitting the removal of the evaporators with valves attached.

Section 8. Service Connections:

(a) Not more than a single tenant shall be supplied from an outlet box on a main riser. Such outlet box shall be located within the premises of the tenant served and so arranged as to be accessible at all times.

(b) No outlet or junction box shall be permitted in any hallway, stairway or vertical shaft not cut off at each story.

(c) Every refrigerator shall be rigidly secured in place.

Section 9. Every system containing over 20 pounds of refrigerant which operates above atmospheric pressure, and every water-cooled system containing over 12 pounds of refrigerant and capable of producing a pressure in excess of the test pressure shall be provided with a pressure limiting device.

Section 10. Each system containing over 100 pounds of refrigerant shall have compressor or generator protected by a pressure relief valve connected into the high pressure side between the main stop valve and the compressor or generator to relieve excessive pressure into the low pressure side of the system or to the atmosphere. Where discharge is to the low pressure side, a relief valve shall be provided on the low pressure side of the system.

Section 11. No stop valve shall be located between a pressure relief device, or pressure limiting device and the part of the system protected thereby, unless two pressure relief devices of required size are used and so arranged that only one pressure relief device can be cut off for repair purposes at any one time.

Section 12. Systems exceeding 20 pounds capacity shall have a pressure relief device on shell type apparatus, such as liquid separators, liquid receivers, condensers, evaporators and absorbers, which can be shut off by stop valves.

Section 13. Every system containing more than 100 pounds of refrigerant shall be provided with a hand operated relief valve for discharging the refrigerant in case of fire, either to the atmosphere or to a suitable body of water. For systems containing irritant or flammable refrigerants, the discharge to the atmosphere shall be through a proper diffuser above the roof of buildings within 50 feet. The hand operated relief valve shall be located outside the machinery room, or shall be capable of operation from the outside.

Section 14. A rupture member may be substituted for the relief valve in carbon dioxide systems or systems operating below atmospheric pressure.

Section 15. That all ordinances and parts of ordinances in conflict herewith be, and the same are hereby repealed.

Section 16. That this ordinance shall take effect and be in force from and after fifteen days after its passage.

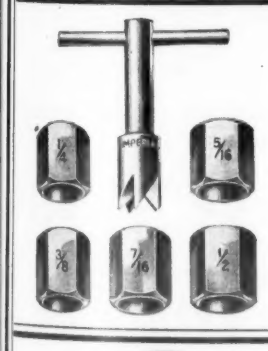
Passed April 29, 1930.

RICHARD L. METCALFE,
Mayor and President of City Council.

Attest JAMES P. HOCTOR,
(SEAL) City Clerk.

No. 285—M. 7

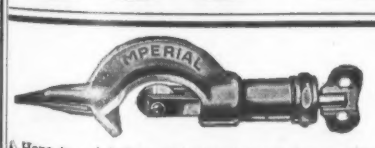
Five Aids
To Better Installations



Imperial Refacing Tool

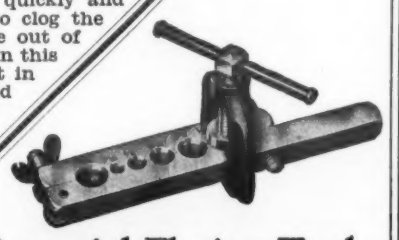
This new Imperial Tool insures against leaks caused by S. A. E. couplings that do not seat properly. In use, the coupling is inserted into the correct adapter, then a few turns of the five-fluted hardened steel refacer will produce a faultless seat of just the correct size and taper for an absolutely tight and leak-proof joint.

No. 100-F Refacing Tool with adapters for sizes ¼", 5/16", ⅜", 7/16" and ½". Per Set $3.75



IMPERIAL TUBE CUTTER

Here is a highly efficient tool for cutting copper, brass, block tin and lead tubing. It takes all sizes of tubing from ⅛" to ⅝" and makes a right-angle cut, quickly and cleanly, leaving no burrs or chips to clog the line. The tubing does not become out of round as when put in a vise. When this tool is used, tubing can be cut in half the time required by old methods and a far better job results. No. 94-F Tube Cutter, each $2.50



Brass Forgings

Accurately made to meet all the requirements of Iceless Refrigerator Manufacturers. Will not leak. Let us quote on your requirements.

Imperial Flaring Tool

The Imperial Flaring Tool gives the proper flare and taper to the tubing for making up joints. A perfect flare means a tight joint, and this tool does the work in the least time and with the utmost simplicity. No loose dies—no vise necessary.

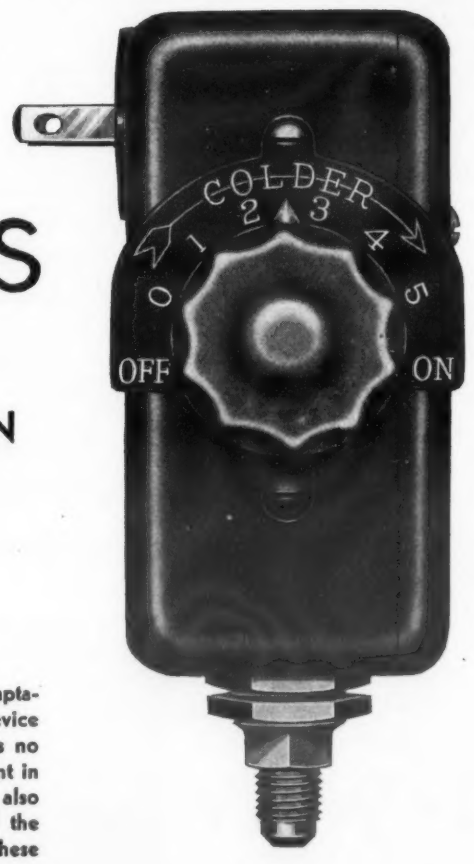
No. 93-F takes tubing sizes 7/16", 3/16", ¼", 5/16", ⅜", and ½", ea. $3.00

No. 95-F takes tubing sizes ¾", 5/16", ⅜", ½" and ⅝", each..... $4.00

This tool is light in weight and most simple to use. It is merely slipped over the tubing and brought to rest at the place where the bend is to be made. Then both tube and coil are bent by hand to whatever form desired. Seven Tube Benders comprise a complete set. No. 101-F Tube Bender Set for tubing sizes, ¼", 5/16", ⅜", 7/16", ½". Per Set..... $2.75

THE IMPERIAL BRASS MANUFACTURING CO.
565 SOUTH RACINE AVE. - - - CHICAGO, ILL.

The PENN TYPE J
Temperature .. Pressure or Vacuum Switch
for DOMESTIC REFRIGERATORS



COMPACT CONSTRUCTION
ATTRACTIVE DESIGN
QUICKLY ACCESSIBLE

Penn Engineering Craftsmanship has built into Type J unusual adaptability to domestic units. While this highly perfected controlling device performs the functions of several switches, the entire mechanism is no bigger than your fist. Complete control with one dial; its movement in half circle lowers temperature to suit manufacturer's specifications, is also used for starting and stopping when defrosting, and resetting of the switch if thermal overload has opened the circuit. In addition to these outstanding features Type J is equipped with differential and range adjuster.

The outside temperature selector does not alter the original factory setting, and may be used to lower the temperature to suit manufacturers specifications. The Thermal Overload Protection is designed to compensate for changes in room temperature, to assure accurate motor protection.

It is attractively finished in a Bakelite case of high dielectric strength, practically air-tight, and vapor proof. Bayonet type contacts, for accessible and quick wiring, eliminate the necessity of entering the switch. The simple mounting, too, is unusually handy and may be done quickly.

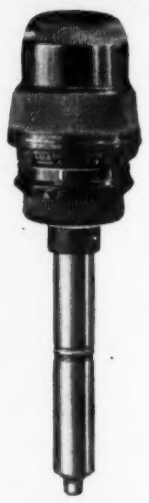
Penn Type J may be secured with a wide range of temperature control from 20 degrees below zero to 50 degrees above, and corresponding pressure ranges. Minimum differential of five degrees or maximum of 30 degrees, and corresponding pressure differentials over the entire range. Rated for a maximum of 1/3 H.P., A.C. or D.C. and supplied in various models for special applications. Send for complete specifications and full description how you can simplify the control of your electric refrigeration system with Penn Type J.

PENN CONTROLS ARE MANUFACTURED BY AN ORGANIZATION OF PROVEN ENGINEERING ABILITY, AND ARE USED AS STANDARD EQUIPMENT ON MANY OF THE FINEST ELECTRIC REFRIGERATORS.

PENN ELECTRIC SWITCH CO.
DES MOINES, IOWA

PATENTS
Searches, reports, opinions by a Specialist in REFRIGERATION
H. R. VAN DEVENTER
Solicitor of Patents - Refrigeration Engineer
342 MADISON AVE. NEW YORK

NEW ADJUSTABLE RANCO CONTROL

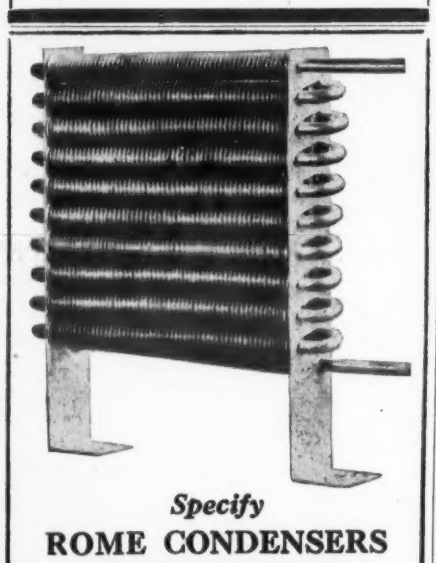


Provides an Ideal Temperature Range on Household Refrigerator

The Ranco Contro for 1930 has many refinements and basic improvements which make it more than ever the ideal control for the modern household refrigerator.

WRITE FOR INFORMATION

The Automatic Reclosing Circuit Breaker Co.
COLUMBUS, OHIO U. S. A.



Specify
ROME CONDENSERS
Made of heavy gauge deoxidized seamless copper tube. One piece construction.
Designs for all requirements.
Rome-Turney Radiator Co.
ROME, N. Y.

precision built

Specializing in
Refrigeration Compressor Eccentric and Crank Shafts

Made to your specifications. Send us your blue prints — we'll send you our prices.
Modern Machine Works, Inc.
195 Milwaukee St. MILWAUKEE, WIS.

Refrigeration Patents Continue Strong As

ISSUED APRIL 15

1,754,524—PAPER CONTAINER FOR FROZEN CONFECTIONS. George L. Porter, Steubenville, Ohio. Filed Apr. 11, 1928. Serial No. 269,221. 1 Claim. (Cl. 206—47.)

A paper confection container composed of a body having a top and a permanently closed bottom, and having an integral annular channel opening into the body interior and disposed between said top and bottom, a disk adapted to be sprung into the channel to form a pair of compartments, one to receive a frozen confection and the other a liquid dressing for the frozen confection, said disk having liquid tight engagement with the body so as to prevent the dressing from contact with the frozen confection, and being removable so as to allow both the frozen confection and the dressing to be removed through the top of the body, and a removable closure for the top of the body.

1,754,594 — SERVING DISH. John H. Bens, North Attleboro, Mass. Filed Aug. 10, 1929. Serial No. 385,008. 6 Claims. (Cl. 62—10.)

1. In a container, a sealed compartment comprising the outer wall of the container and containing a refrigerating medium consisting of a compressible and absorbent material moistened with water to be frozen.

1,754,756—LIQUID COOLER. Thomas S. Merrylees, Yeadon, Pa. Filed Aug. 10, 1928, Serial No. 298,675. Renewed Sept. 7, 1929. 12 Claims. (Cl. 62—91.5.)

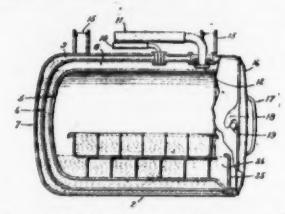
1,754,793 — ICE-CREAM-CABINET CLOSURE. Frederick R. Jefferys, Cleveland, Ohio, assignor to The Aetna Rubber Company, Cleveland, Ohio, a Corporation of Ohio. Filed Sept. 1, 1928. Serial No. 303,477. 3 Claims. (Cl. 220—24.)

1. In a closure for ice cream cabinets, the combination of a disc shaped member, an outside supporting ring of hard rubber surrounding said disc, and an integrally formed soft rubber cone shaped portion of larger diameter at the upper portion of said ring, and a soft rubber flange at the top of said ring extending outwardly from said cone shaped portion.

1,754,967 — REFRIGERATING SYSTEM. Albert C. Schickler, Cleveland, Ohio, assignor to Edmund E. Allyne, Cleveland, Ohio. Filed June 30, 1927. Serial No. 202,724. 4 Claims. (Cl. 62—118.)

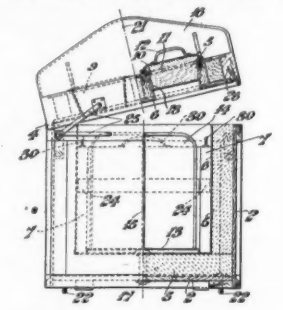
1,755,084—REFRIGERATING MACHINE. Christian Steenstrup, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 13, 1926, Serial No. 148,266. Renewed May 2, 1929. 10 Claims. (Cl. 62—95.)

1. In combination with a refrigerator cabinet, a cooling unit therein comprising an inner chamber for receiving articles to be frozen, an outer closed chamber surrounding the inner chamber and adapted to contain a liquid, an intermediate evaporator chamber adapted to contain a refrigerant, and means for circulating the refrigerant through said evaporator chamber.



6. In combination with a refrigerator cabinet, a cooling unit therein comprising a receptacle adapted to support an ice tray, said receptacle being provided with means for retaining a freezing liquid whereby said tray when in position is in good thermal connection with the evaporator.

1,755,147—COOLING CABINET FOR ICE CREAM AND SIMILAR SUBSTANCES. Philip Leo Bilham, Balham, London, and James Woodrow Smith, Barons Court, London, England, assignors to J. Lyons and Company, Limited, London, England. Filed Dec. 9, 1926, Serial No. 153,686, and in Great Britain Jan. 22, 1926. 3 Claims. (Cl. 62—75.)



1. A transportable refrigerating cabinet having walls of heat insulating material and adapted to receive articles, comprising in combination an insulated top continuous with the walls of insulating material, and provided with openings having insulated removable covers, a plurality of removable narrow receptacles containing refrigerating substance or eutectic mixture, means for holding them against all the vertical walls of the cabinet and means for screening the cabinet while the covers are removed from the openings.

ISSUED APRIL 22

1,755,203—ICE PLANT. George B. Bright, Detroit, Mich. Filed May 17, 1929. Serial No. 363,941. 4 Claims. (Cl. 62—105.)

1,755,384 — SHOW - CASE REFRIGERATOR. Francis C. Becker, St. Louis, Mo., assignor, by mesne assignments, to Hussmann-Ligonier Company, St. Louis, Mo., a Corporation of Delaware. Filed Jan. 20, 1928. Serial No. 248,049. 4 Claims. (Cl. 312—126.)

2. In a showcase refrigerator, a tray having a bottom rim of angle section with a flange thereof unstanding, and a wire body secured thereto but spaced from said flange at the side of the tray, in order to permit co-operation of said flange, with a stop on the showcase.

1,755,781 — INSULATING LUMBER OR WALL BOARD. James J. Hinde, Sandusky, Ohio. Filed July 22, 1926. Serial No. 124,276. 2 Claims. (Cl. 154—45.9.)

1. A building material composed of layers of the hard fibrous material of the external casing of pithy plants, alternating with the layers composed of the internal pithy structure of said plants.

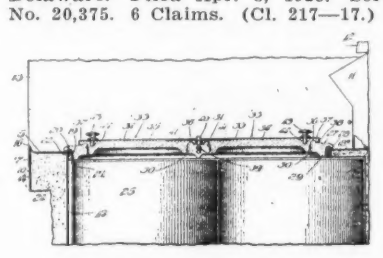
1,755,795—ICE-CUBE TRAY. Cooper B. Rhodes, Washington, D. C. Filed June 15, 1928. Serial No. 285,590. 8 Claims. (Cl. 62—111.)

1. A metallic ice cube tray having side walls and a bottom to form ice cubes, said bottom having a normally convex flexible portion adjacent the cube, which may be flexed so as to eject the cubes.

1,755,810—METHOD OF REFRIGERATION. Samuel C. Carney, Tulsa, Okla., assignor to Shell Petroleum Corporation, a Corporation of Virginia. Filed Oct. 1, 1925. Serial No. 59,796. 7 Claims. (Cl. 62—172.)

1. The process of forming ice bodies from water, which consists in bringing into direct contact with the water a quantity of light hydrocarbons insoluble in the water, said hydrocarbons being of a character which will not impart any odor, taste or deleterious effect to the ice bodies, and evaporating the hydrocarbons under a partial vacuum.

1,755,816—COOLER CABINET FOR SODA FOUNTAINS. Tully De Stefani, Chicago, Ill., assignor, by mesne assignments, to The Liquid Carbonic Corporation, Chicago, Ill., a Corporation of Delaware. Filed Apr. 3, 1925. Serial No. 20,375. 6 Claims. (Cl. 217—17.)



1. A cooler cabinet for soda fountains having a flat metallic capping provided with an opening therein, and having an upwardly extending bead around said opening, a cover having an annular part of molded heat insulating material projecting over and contacting with said annular bead, said cover having an aperture therethrough, a bead extending upwardly around said aperture, and a lid for closing said aperture having a part extending outwardly and contacting with said bead.

1,755,880—CONSTRUCTION FOR DISPLAY CASES AND THE LIKE. Henry F. Keil, Scarsdale, N. Y. Filed Feb. 10, 1928. Serial No. 253,325. 15 Claims. (Cl. 16—100.)

1. In a supporting means for sliding panels for display cases and the like, in combination, a plurality of rollers adapted to be positioned beneath the panel to anti-frictionally support the panel for sliding movement, and means to be positioned underneath said rollers to form a track therefor comprising a sheet metal member adapted to be secured flatwise against a base, and a second sheet metal member resting upon said first member and removable therefrom and adapted to provide a smooth surface on which the rollers roll.

ISSUED APRIL 29

1,756,148. ABSORPTION REFRIGERATING MACHINE. George Ferguson, The Hague, Netherlands, assignor to the Firm Gebrüder Sulzer Aktiengesellshaft at Winterthur. Filed Aug. 19, 1927, Serial No. 214,196, and in Switzerland, Aug. 21, 1926. 4 Claims. (Cl. 62—118.)

1. In an absorption refrigerating machine a generator absorber comprising a tubular chamber, a heating pipe passing through said chamber, a tubular member concentrically disposed about and spaced from said pipe, a discharge pipe for returning refrigerant arranged in the space between said heating pipe and said tubular member, and a cooling coil concentrically disposed about and spaced from said tubular member.

1,756,218. WATER COOLER. Russell T. Smith, Cincinnati, Ohio, assignor to The Crosley Radio Corporation, Cincinnati, Ohio, a Corporation of Ohio. Filed May 31, 1929. Serial No. 367,320. 3 Claims. (Cl. 62—143.)

1. In a device of the character described, a cabinet having in its lower portion a refrigerating compartment suitably insulated, with a movable cover, a movable closure for that portion of one of the sides of the cabinet above said compartment, said closure having clearance for the connecting element between the portions of a portable refrigerating unit, the evaporator of which is inserted into the cabinet, the space above the compartment as disclosed by said side closure being sufficient to permit of insertion of said evaporator, and tubular connection from an elevated source of supply of water passing down through the compartment and thence upwardly to a convenient point for use, where it is coupled with a tap that extends from the cabinet.

1,756,225. UNION CHECK VALVE. Soren Thurstensen, Louisville, Ky., assignor to Henry Vogt Machine Co., Louisville, Ky. Filed Jan. 2, 1926. Serial No. 78,963. 7 Claims. (Cl. 251—121.)

1,756,261. FREEZING APPARATUS. Leroy S. Pfouts, Canton, Ohio, assignor to The H. H. Miller Industries Company, Canton, Ohio, a Corporation of Ohio. Filed Aug. 15, 1927. Serial No. 212,977 (Cl. 62-114.)

1. In apparatus of the class described, the combination of an upright freezing cylinder having upper and lower heads and inner and outer rotatable members arranged to rotate in opposite directions, a driving mechanism below said freezing cylinder, concentrically arranged shafts connected with elements of said driving mechanism and said rotatable members, respectively, and inter-related elements carried by said shafts below said lower head and arranged to prevent flow of liquid escaping from said cylinder downwardly onto said driving mechanism.

1,756,536. MILK-COOLING DEVICE. Herman Clevenger, Monroe Township, Delaware County, Ind. Filed Dec. 8, 1927. Serial No. 238,630. 2 Claims. (Cl. 257—199.)

1,756,552. VALVE-OPERATING MECHANISM. Leonard F. Heitz, Lake Mills, Wis., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 15, 1928. Serial No. 306,221. 1 Claim. (Cl. 137—21.)

1,756,571. REFRIGERANT-COMPRESSOR-CONTROL MANIFOLD. John C. Scovel, Jr., Chicago, Ill., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 9, 1928. Serial No. 311,327. 8 Claims. (Cl. 230—239.)

1. A device of the class described, comprising a manifold body having a suction chamber, an antechamber, a discharge chamber and an oil trap chamber, and having a by-pass passage connecting said discharge chamber with said antechamber and a by-pass passage connecting said oil trap chamber with said suction chamber, said body having a port interconnecting said suction chamber and said antechamber and a port interconnecting said discharge chamber and said oil trap chamber, said body having means for the connection of said suction chamber and said discharge chamber respectively with the suction port and the discharge port of a refrigerant compressor, and having means for the connection of said antechamber and said oil trap chamber respectively with the suction line and the discharge line of a refrigerant circulating system, and valve means for severally controlling said by-pass passages and said interconnecting ports.

1,756,802. FLUID PUMPING. Lyman F. Whitney, Boston, Mass., assignor, by mesne assignments, to Stator Refrigeration, Inc., a Corporation of Delaware. Filed Jan. 6, 1927. Serial No. 159,342. 8 Claims. (Cl. 230—102.)

2. Apparatus of the character described comprising a fluid duct including means for pumping fluid, said means comprising two aspirator nozzles with propellent condensers adjoining the out-

(Continued on Opposite Page)

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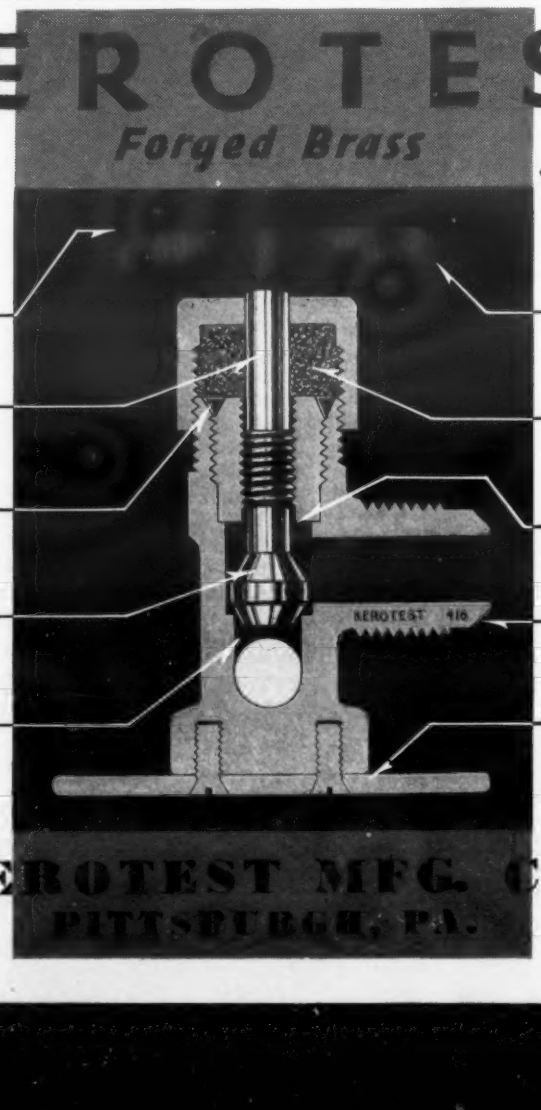

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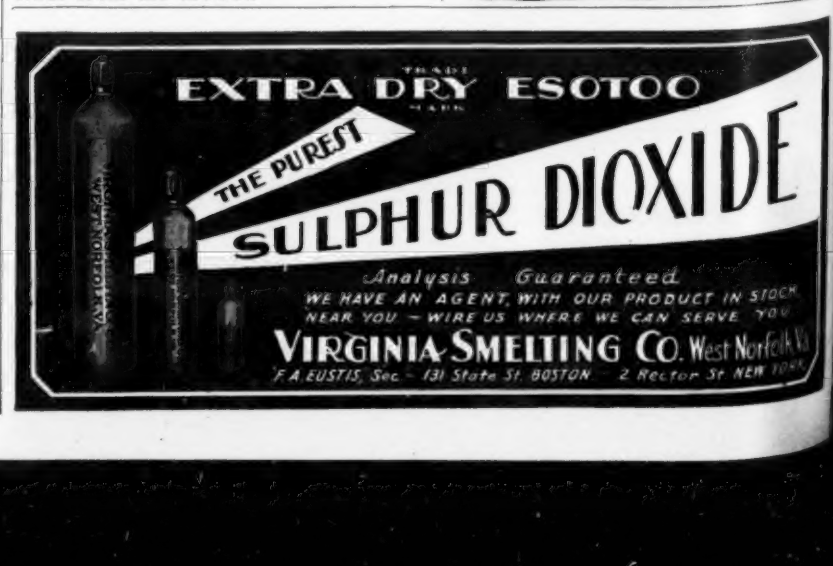
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Warm Weather Approaches

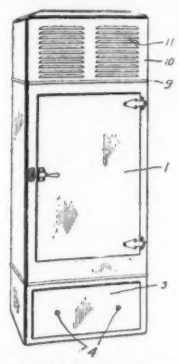
(Continued from Opposite Page)

lets of each of the same, a cooler between one of the condensers and the succeeding aspirator, and a third condenser adjoining the outlet of the second aspirator nozzle.

ISSUED MAY 6

1,756,950. LAMINATED CORK SHEET AND THE METHOD OR ART OF MAKING SAME. Charles E. McManus, New York, N. Y., assignor to Crown Cork & Seal Company, Inc., New York, N. Y., a Corporation of New York. Filed April 8, 1924. Serial No. 704,958. 3 Claims. (Cl. 154—2.)

1,756,984. REFRIGERATOR CABINET. George W. Mason, Detroit, Mich., assignor to Copeland Products, Incorporated, Detroit, Mich., a Corporation of Michigan. Filed July 19, 1926. Serial No. 123,267. 2 Claims. (Cl. 45—71.)

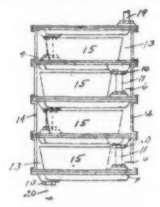


1. In combination, a compartment for storage provided with an open top and a ventilated side wall, horizontally extending supports secured adjacent the top of said compartment, and a refrigerator cabinet having a heat insulated imperforate bottom received on said supports.

1,757,022. LIQUID-AIR OXYGEN-PRODUCING PLANT. Otto Simonis, London, England. Filed April 9, 1926, Serial No. 100,972, and in Great Britain January 21, 1926. 11 Claims. (Cl. 62—122.)

1,757,033. ICE-FORMING APPARATUS. Neil B. Wolcott, Washington, D. C., assignor to Thermo-Ice Corporation, Auburn, N. Y. Filed August 13, 1927. Serial No. 212,733. 5 Claims. (Cl. 62—108.)

1,757,041. EVAPORATOR ELEMENT. George W. Gail, Ruxton, Md., and Abraham J. Kusel, Bridgeport, Conn., assignors to Kulair Corporation, Baltimore, Md., a Corporation of Delaware. Filed January 13, 1927. Serial No. 160,960. 11 Claims. (Cl. 62—95.)



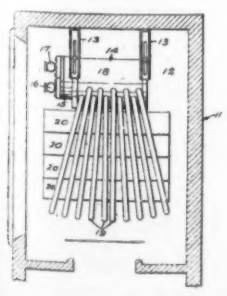
1. An expander element for refrigerating machines, comprising a series of individually formed substantially flat plate-like heat exchange units superimposed one upon the other and rigidly secured one to the other in spaced relation and conduits connecting the respective units.

1,757,044. CONTROLLING DEVICE FOR REFRIGERATING SYSTEMS. Charles C. Hansen, Chicago, Ill., assignor to Refrigerating Specialties Co., Chicago, Ill., a Corporation of Illinois. Filed February 14, 1927. Serial No. 167,981. 6 Claims. (Cl. 62—8.)

1. In a controlling device for refrigerating systems, the combination of a casing, a valve plunger in the casing, a diaphragm exposed to the pressure of fluid in the casing connected to operate the plunger, a spring applied to resist the movement of the diaphragm, an abutment screw for the spring, and a device for adjusting the spring independently of the screw so the diaphragm will be operable by different predetermined pressures.

1,757,058. MILK AND CREAM COOLER. John N. Reinert, Bird Island, Minn. Filed July 6, 1928. Serial No. 290,856. 1 Claim. (Cl. 257—206.)

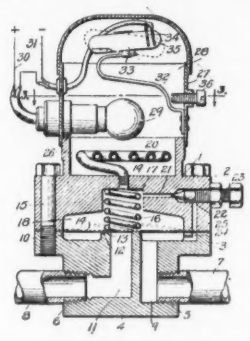
1,757,062. MECHANICAL REFRIGERATION. Charles C. Spreen, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed June 3, 1926, Serial No. 113,472. Renewed Mar. 6, 1930. 7 Claims. (Cl. 62—95.)



4. A refrigerant expansion unit comprising an elongated header, a plurality of conduits having end portions communicating with the header and having aligned portions disposed transversely to the longitudinal axis thereof in a region bounded by planes parallel to said axis, said end portions and said aligned portions being distributed throughout unequal expanses of space.

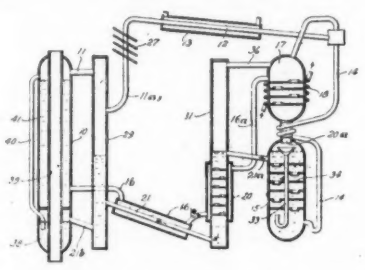
1,757,081. WET-BULB THERMOSTAT. Walter L. Fleisher, New York, N. Y., assignor to The Cooling & Air Conditioning Corporation, New York, N. Y., a Corporation of New York. Filed Nov. 23, 1927. Serial No. 235,357. 9 Claims. (Cl. 236—44.)

1,757,248. AUTOMATIC CONTROL VALVE. John F. Hoffman, Omaha, Nebr., assignor to Baker Ice Machine Co., Inc., Omaha, Nebr., a Corporation of Nebraska. Filed Feb. 23, 1928. Serial No. 256,455. 6 Claims. (Cl. 236—68.)



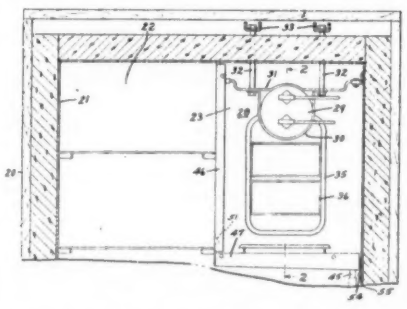
1. In a thermostatic control device, a housing having a fluid containing chamber and a chamber provided with inlet and outlet ports, a diaphragm separating said chamber and adapted to close one of said ports, said housing having a bore for conducting fluid to the fluid containing chamber, and means for heating the fluid to expand the same to urge the diaphragm toward port closing position.

1,757,254. REFRIGERATION. Alvar Lenning, New York, N. Y., assignor to Electrolux Servel Corporation, New York, N. Y., a Corporation of Delaware. Filed May 21, 1929. Serial No. 364,788. 9 Claims. (Cl. 62—119.5.)



1. Refrigerating apparatus comprising, in combination, a condenser, an absorber, an evaporator, means to supply the evaporator with a solution from the absorber and a condensed fluid from the condenser, means to conduct vapor from the evaporator to the absorber and means for receiving solution from the evaporator, separating the same and conducting gaseous fluid to the condenser and liquid to the absorber.

1,757,316. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Nov. 24, 1925. Serial No. 71,169. 3 Claims. (Cl. 62—95.)



1. A refrigerator cabinet comprising a substantially vertical wall, a substantially horizontal wall, said walls providing a cooling compartment within the cabinet, said vertical wall having an opening therethrough adjacent the horizontal wall and having an inwardly formed portion for directing the water of condensation from the outside of said wall into the cooling compartment.

1,757,346. LAMP-SOCKET SUPPORT FOR SHOW-CASE REFLECTORS. Joseph Taussig, Chicago, Ill. Filed Apr. 15, 1929. Serial No. 355,103. 5 Claims. (Cl. 240—6.)

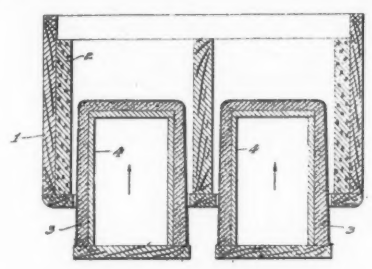
1,757,383. MEANS FOR TEMPORARILY ARRESTING THE MELTING OF ICE. Amos V. Pankey, Harrisonburg, Va. Filed Apr. 24, 1929. Serial No. 357,805. 3 Claims. (Cl. 62—170.)

1. A cake of ice or the like formed with cavities, a solidified refrigerant having a lower freezing point than ice to be received in said cavities, and a wrapper for the refrigerant.

1,757,390. REFRIGERATOR. Frank H. Ryder, Cobleskill, N. Y., assignor to Harder Refrigerator Corporation, a Corporation of New York. Filed Feb. 14, 1929. Serial No. 339,958. 2 Claims. (Cl. 62—89.)

1,757,391. REFRIGERATOR. Frank H. Ryder, Cobleskill, N. Y., assignor to Harder Refrigerator Corporation, a Corporation of New York. Filed Mar. 1, 1929. Serial No. 343,590. 3 Claims. (Cl. 62—89.)

1,757,450. METHOD OF REFRIGERATOR MANUFACTURE. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Company, Flint, Mich., a Corporation of Michigan. Filed Feb. 26, 1926. Serial No. 91,000. 4 Claims. (Cl. 25—155.)



2. The method of casting a stone casting which consists in applying a parting material to the core, covering the core with an enamel, or finishing material, applying a filler to the enameled surface of the core, and then pouring the mix in the mould and around the core whereby the filler and enamel surface of the core may be transferred to the surface of the stone casting whose contour is formed by the core.

1,757,520. PORTABLE REFRIGERATOR. Emil A. Florang, Burlington, Iowa. Filed Nov. 29, 1926. Serial No. 151,388. 2 Claims. (Cl. 217—5.)

1. In a portable refrigerator, a quadrangular body having straight vertical sides and a top horizontal peripheral edge, a metal lining having straight vertical sides, each side of said lining having at the top thereof an outwardly extending straight spring top flange integral therewith and separate and spaced at its ends from the adjacent top flange and consisting of a curved upstanding ridge and an outer reversely curved free edge resting slidingly upon the related horizontal top edge of a side of said body, and a cover, said spring top flange being adapted to be compressed against its spring tension under pressure of said cover to make a tight joint therewith.

(To be continued)

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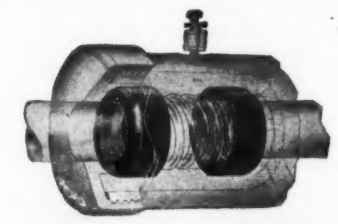

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Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

Brooks

Refrigeration for the home is the subject of a folder issued by the Brooks Steam Motors, Inc., Buffalo, N. Y. Two cabinets in the Brooks line are illustrated, one with about 4 cu. ft. food storage capacity and the other with 7¼ cu. ft. capacity. The models in the ID line are insulated with Dry-Zero. The Brooks compressor is of the vertical single-acting, reciprocating type, with all moving parts submerged in oil. All models use sulphur dioxide as a refrigerant.

Frozo

The Frozo Refrigerating Machine Co., Kansas City, Mo., has entered the field with an ammonia machine, which is described in literature now being distributed by the company. Application of heat actuates the refrigeration cycle and heating for an hour and a half, stores ammonia sufficient to provide as much refrigeration as produced by the melting of 400 lbs. of ice. The adaptability of this machine to dairy farms, meat markets, etc., is fully covered in the folder.

Hayes

Rotary dispensers for bottle drinks, with capacities from four to twelve cases, are explained in a leaflet prepared by Hayes Box, Meridian, Miss. Five models are available and all are of metal construction, inside and outside.

Henry Valve

Specialized valves and fittings, manufactured by the Henry Valve Co., 3260 West Grand Ave., Chicago, Ill., for ammonia refrigerating machinery and installations, are presented in Catalog 30 just released by that company. Valves illustrated and described in the catalog include standard bolted bonnet line valves, standard screwed bonnet line valves, screw bonnet expansion or needle point valves, check valves, relief valves, liquid gauge set, purge valves, all-steel line and needle point valves. Fittings include scale and sediment traps screw ends, split return bends, drop forged straight and elbow flange unions, tongue and groove joint unions, elbows, tees, couplings and reducing bushings. Factory scenes show production of the valves and fittings.

LaCrosse

Four new cabinet models are announced by the LaCrosse Refrigerator Corp., LaCrosse, Wis., in literature now being sent to the trade. These models are designed for mechanical refrigeration and are insulated with two inches of Dry-Zero. Exteriors are of special galvannealed metal, finished in a choice of four colors.

Monel Metal

"Modern Fountains" is the title of a mailing piece prepared by the International Nickel Co., New York City, in which the uses of Monel Metal in the construction of soda fountains are covered. A number of photographs show typical installations of fountains equipped with Monel Metal.

Pyrex

Refrigerator dish sets are described in several leaflets sent in by the Corning Glass Works, Corning, N. Y. The complete set of four dishes of varying sizes is very useful for storing foods in the refrigerator. Pyrex dishes have countersunk glass covers that fit tightly and are also slip-proof. In addition to the refrigeration service, these dishes may be used for baking or heating foods.

Refrigerating the Antipodes

PARSONS & ROBERTSON, LTD., Frigidaire distributors in Adelaide, South Australia, added another laurel by winning the "Hardy Cup" for big business in January, 1930. This trophy was donated by H. H. Hardy, of the Frigidaire Export Department, and is open for competition monthly to ten Australian and New Zealand distributors.

The photo depicts the modern building of the company and its entire organization. This building, designed on simple rugged lines, shelters the executive, sales and engineering staff. It is located in the warehouse section of the city. It has a fine showroom and a broad window front, admirably lighted at night. The whole building is floodlighted from adjacent property.

In addition to the building on Pultney Street, an attractive showroom is maintained by the company on Rundle Street, a busy shopping section, where thousands see the windows daily. A complete line of Frigidaire models is on display, with a model operating in the window.

J. H. Klicke, who previously occupied the position of warehouse manager, has recently been promoted to sales manager and sales engineer.

"Since the inauguration of the Frigidaire agency in South Australia in 1925, we have sold 700 units," said Mr. Klicke, "and one of our customers has 14 machines installed in his cafes, not saying anything about the three prominent ice cream manufacturers, who have installed over 90 Frigidaire machines."

During January the company exceeded the Frigidaire sales quota by 3 per cent, thereby winning the "Hardy Cup." Healthy rivalry is maintained in the sales team by the competing monthly for the cup. The winner for January, R. F. Watson, has his name engraved upon an escutcheon plate, and at the end of the year the man with the most names thereon takes home the trophy as a reward for his selling efforts.

Spray Cold

Two folders are now available showing the refrigeration equipment, display cases and cooling rooms, manufactured by the St. Louis Butchers' Supply Co., St. Louis, Mo. One of the folders is devoted to the "Spray Cold" case in which cooling is brought around by air cooled by flues and sprays. Brine is used to refrigerate the air.

Winters & Crampton

Aristo-Craft refrigerator locks and hinges are announced in a new catalog by the Winters & Crampton Manufacturing Co., Grandville, Mich. Aristo-Craft hardware is of cold forged and pressed brass construction plated with chromium. The locks and hinges are available in three sizes, all of which are finished in modernistic design.

BIHL LEAVES ZEROZONE CORPORATION

Chicago, Ill.—W. E. Bihl has resigned as chief engineer of Zerozone Corporation. Mr. Bihl has no plans for the immediate future.

REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Cooling Coils.

Query No. 363—"Can you tell us who manufactures the flooded type cooling coils for domestic refrigerators?"

Answer—American Radiator Co., Industrial Division, 816 S. Michigan Ave., Chicago, Ill., Fedders Mfg Co., 57 Tonawanda St., Buffalo, N. Y., and the Kulair Corp., Kensington Ave. and M St., Philadelphia, Pa.

Pocket Thermometers

Query No. 364—"Will you be kind enough to furnish me with the names and addresses of firms manufacturing pocket type thermometers used with mechanical refrigeration?"

Answer—Carroll Glass Instrument Co., Philadelphia, Pa., Palmer Company, 125 Clay St., Cincinnati, Ohio, and the Tagliabue Mfg. Co., 18 - 33rd St., Brooklyn, N. Y.

Bishop & Babcock

Query No. 365—"Will you kindly send me the address of Bishop & Babcock Co., manufacturers or distributors of sylphon bellows?"

Answer—Bishop & Babcock Co., 4901 Hamilton Ave., N. E., Cleveland, Ohio.

Exports

Query No. 366—"We are wondering if, in your records of export shipments, you have any data showing the number of household cabinets exported last year."

Answer—Exports of electric refrigerators during 1929 reached a total of 70,985 units.

Rotary Compressor

Query No. 367—"We are interested in obtaining the export rights on a rotary, gyratory type of refrigerating compressor licensed for commercial refrigeration, and we are wondering if you could furnish the names and addresses of its manufacturers."

LARGE FACTORY ORDERS TEMPRITE COOLERS

Grand Rapids, Mich.—An order for Temprite coolers to be used in a multiple installation has been received by the Liquid Cooler Corporation from the Consumers Power Company at Grand Rapids.

These coolers are to be installed in one of the buildings of the Grand Rapids Store Equipment Company. This company is the world's largest manufacturer of store equipment, and owns several large factory and office buildings.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

POSITIONS AVAILABLE

WANTED — Experienced commercial salesman to sell Frigidaire. Byars-Forgy Refrigeration Co., 102 E. Lafayette Street, Tampa, Fla.

POSITIONS WANTED

DIRECTOR of sales with record of accomplishment that will interest progressive manufacturers. Thoroughly qualified by training and experience in refrigeration field; outlining and executing sales and advertising policies from market analysis to quota accomplishment; directing sales management, national advertising and sales promotion activities. University graduate. Now employed. Let's exchange facts. Write Box 254.

CHIEF Engineer Available. Eight years' experience in domestic and commercial refrigeration with popular manufacturer charge of engineering design and production methods. Wishes to communicate with manufacturer. Box 253.

MARRIED and happy, thirty-two years of age. My technical training and twelve years' experience have given me thorough knowledge into all angles of refrigeration. Starting with service and installation, at present have charge of sales in large territory. Desire position where leadership, ability and knowledge of the product mean a future. Best of references. Box 255.

MISCELLANEOUS

WANTED—Will pay cash for your entire inventory, regardless of size, of obsolete model units, low sides or tanks, or cabinets. Please submit your inventory and lowest cash price you will accept for entire quantity. No deal too large or too small for us. Will guarantee not to conflict with your sales and distributors' organization in selling your inventory. Can assure you any information will be treated strictly confidential. Write, wire or 'phone. American Liquidating Corp., 307 N. Michigan Ave., Chicago, Illinois.

FOR SALE—One American Carbonic, 2½ ton ice machine, complete with 5 H. P.D.C. motor with controls, condenser and ice box approximately 10' x 7' x 7'. Thermostatically controlled — excellent condition—very reasonable. Address Box 256.

GET TEST FACTS

and get all of them!

We feel you are entitled to know just what happens to your refrigerator from its receipt until it goes out the back door.

Complete records, work sheets, everything concerning the test, are open to your inspection.

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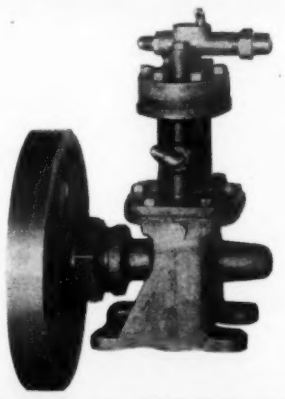

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Easily connected to all types of Electric Coolers

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Allen-Buhring Water Purifying Service, Chicago, Ill.
Boston Filter Co., Boston, Mass.

Refrigerated Food Section

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

VOL. 4, NO. 19, SERIAL NO. 95

Copyright, 1930, by Business News Pub. Co.
DETROIT, MICHIGAN, MAY 21, 1930

Entered as second class matter Aug. 1, 1927, at Detroit, Mich.

IN TWO PARTS, PART 2

MARKETING

Of Quick-Frozen Products in South Is Characterized by Apathy

AN investigation into the progress that quick-frozen foods, especially quick-frozen meats, are making in the Southeastern portion of the country, reveals an unusual situation. The investigation was confined to three cities, Atlanta and Savannah, in Georgia, and Jacksonville, in Florida. In popular estimation, Atlanta and Jacksonville probably would be ranked above Savannah in up-to-dateness and readiness to take up a new development, but so far as quick-frozen meats and a greater sense of the importance of the new development are concerned, Savannah offers more immediate possibilities than do her two larger rivals.

Few Retailers Buy

Atlanta and Jacksonville have much the same tale to tell. Three of the four big packers—Swift, Wilson and Cudahy—have been selling quick-frozen meats in those cities with comparatively little success. The greater part of their sales have been made directly to the consumer, to restaurants, hotels, schools and similar institutions. Desultory efforts have been made to persuade retailers to handle the new products, with unsatisfactory results.

The managers of the branch house of the packers, to a man, believe firmly in the future of quick-frozen meats. They recognize the economies involved, the assurance of quality meats to the consumer, and various other advantages, but also, to a man, they do not at present see their way clear to forcing the sales of the new products in direct opposition to the expressed opposition of the butchers in the territory they serve.

This opposition on the part of the butchers seems to be the decisive factor at present. Even in large stores which handle other products, the buying of meats is almost always left to the discretion of the butcher, while his employer makes all the other purchases. The butcher sees, or thinks he sees, his job slipping away from him, and he cannot be persuaded to say a single word to his boss in favor of quick-frozen meats. And the men at the packing house branches, sensing his mood, do not push the subject.

Neglecting An Opportunity

So far as the consumers now buying the new products are concerned, there is little evidence that they are taking advantage of their opportunity to point out to their customers the fact that quick-frozen meats are on their menus. Chops, especially pork chops, have been the best sellers in both Atlanta and Jacksonville, with all three companies, and the hotels and restaurants buying them serve them just as they would ordinary pork chops. The man who buys them thinks that he is eating fresh chops.

The beef cuts are not going so well. Nobody seems to ask for them, and that means that not many are sold. An unexpected phase of the Jacksonville situation is that Swift & Company have found some of their best customers for the quick-frozen identifiable packaged meats in the smaller towns and cities south of Jacksonville. Merchants in cities like Ocala and Gainesville send in weekly orders for small quantities, usually pork chops.

Savannah Is Awake

Savannah presents a different picture. Although probably the total sales of quick-frozen meats are not as big as in Atlanta or Jacksonville, the situation is much more promising. Savannah has a population of about 110,000, of which about half are negroes, thus materially reducing the market for the finer cuts of meat. A worn-out city market houses the butchers. They keep their meat in the market's big refrigerators at night and handle it through the day from their stands without refrigeration equipment of any kind. In spite of this unpromising situation, two butchers prominent in the market—McLean and Smith Brothers—have had the courage to try out quick-frozen meats. Both found that the new products sold pretty well, although the conditions for handling them were unsuitable, and both believe in the future of packaged meats. If they had proper equipment, both of these Savannah butchers would be glad to handle quick-frozen meats. They display none of the fear of the frozen products that is so much in evidence elsewhere.

The belief in quick-frozen meats in Savannah is not confined to the butchers. Take the case of Charles Wilkins, who runs a vegetable and grocery store known as the Groceteria, a few steps from the city market. Last month he decided to do some experimenting with quick-frozen meats. He bought between 300 and 400 pounds from Wilson & Company, advertised them in the local newspapers, saw to it that one of the papers ran an article about quick-frozen foods, and disposed of his entire consignment in a couple of days. He, too, is not equipped for handling the new products. He kept them in his refrigerator, where he usually keeps his butter and eggs, but had to maintain so low a tempera-

(Concluded on Page 4, Column 3)

MISSISSIPPI BERRIES

Jackson, Miss.—Strawberry growers in Mississippi are planning to increase the quantity of frozen berries shipped to the north. They hope to ship from six to seven thousand barrels of frozen strawberries this season, and may exceed that figure. The Mississippi berries are sharp frozen at a temperature of 10 degrees F., and are kept in storage at a temperature of about 26 or 27 degrees. Before freezing the berries are packed with sugar,

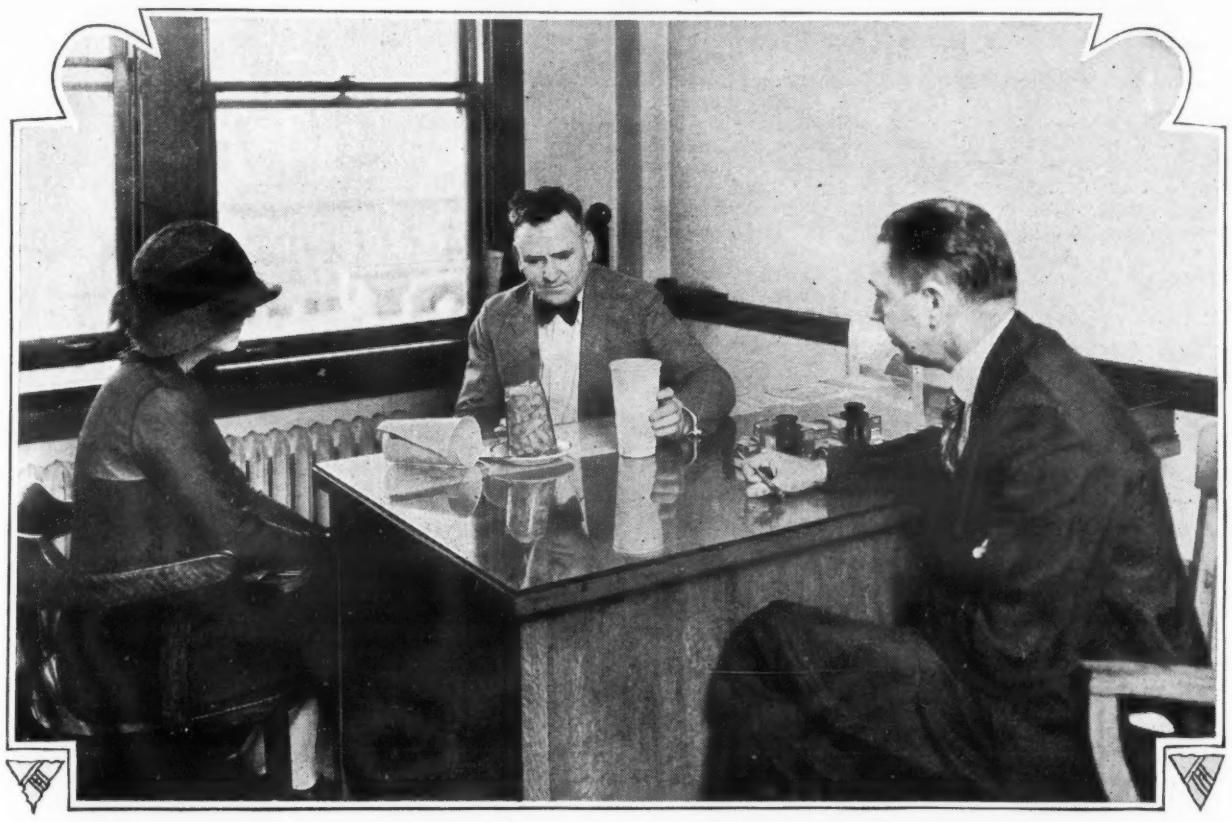
THE SOUTH

The news from the South, which appears in this issue of the Refrigerated Food Section, shows that quick-frozen foods are making slow progress from a sales standpoint in that part of the country, due to various factors, which are duly mentioned. On the other hand, the South seems anxious to avail itself of the benefits of quick freezing, so far as its own products are concerned.

WOODS ON AIR

William Whitfield Woods, president of the Institute of American Meat Packers, was the guest speaker on Tuesday, May 20, when the meat packing industry was the recipient of the Westinghouse Radio Salute broadcast by thirty-two N. B. C. stations. Mr. Woods has made a reputation as an able speaker and he discussed some of the problems which confront the meat packing industry today. He referred in his talk to the development of quick-frozen foods.

Refrigeration Scores Again



W. R. Tucker, in the center of the picture, is showing some of his frozen Georgia peaches to C. A. Cobb, editor of the Southern Ruralist, and Miss Lois Dowdell, prominent home economist. A moment after the picture was taken, Mr. Cobb and Miss Dowdell ate some of the peaches and pronounced them excellent. The container is one of several types used by Mr. Tucker in his experimental freezing.

QUICK FREEZING

Discussed by Swift Executive

Fort Wayne, Ind.—Quick-freezing of meats occupied a prominent part of the program at the monthly meeting of the Foremans' Club of Fort Wayne, held here on May 13. About one hundred and seventy-five members of the club turned out for the session which proved to be a mighty interesting one. They were made acquainted with the new methods of merchandising which is winning favor with the large packers.

Henry W. McKee, of Swift & Company, Chicago, was on hand for the occasion and he outlined in a very interesting manner some of the methods of quick-freezing of meats. Mr. McKee has spent thirty years in the meat packing industry and he related a number of his experiences during the three decades. (The talk given by Mr. McKee is printed in full on Page 6 of this section.) At the conclusion of this talk, the display of portions of lamb was raffled off to members of the club.

Solid carbon dioxide was discussed by J. Mitchell, of the Dry-Ice Corporation. The manufacture and commercial uses of this refrigerating medium were covered in detail by Mr. Mitchell.

Each member of the club was presented with a package of Frozen Premium Chops supplied by Swift & Company, at the conclusion of the meeting.

NEW PRODUCTS

Boost Sales in Springfield

Springfield, Mass., May 19.—A good sales week for the Birdseye Frosted Foods here was reported for the week ending May 17. Three additions were made to the line on Thursday, May 15—hamburger steak, calves' liver and stewing veal. The hamburger, put up in one-pound packages, scored an immediate hit, and was of considerable advantage in boosting the sales volume for the line. With the advent of warm weather this item, through the assurance of absolute freshness afforded by the quick-freezing system, is expected to make a strong appeal to householders. The calves' liver also promises to be a good seller.

In general, the well-varied line of meats put out under the Birdseye label bids fair to increase its popularity. With fresh vegetables coming into season, no early expansion of Birdseye sales in the vegetable field seems probable, but with the advantage of big packs to be put down in the meantime, this class of foods is expected to boom during the coming fall and winter.

Further additions are expected to be made to the lines in the near future. Considerable demand has been expressed for a smaller-size container of oysters, giving just enough for two persons. Chickens are expected to take their place in the forefront of popularity when they find a place in the Birdseye list.

Increasing interest in the Birdseye campaign is shown by the visit of representatives of large chain store systems. One chain-store man came all the way from Denver last week to investigate the merchandising system that is being applied here. He represents an organization that is said to have some

(Concluded on Page 2, Column 1)

LARGE CUTS

Of Pork Are Now Quick-Frozen

Cudahy, Wis.—Quick freezing of the larger pork cuts on a wholesale scale has been undertaken by the Cudahy Packing Co. at the main packing plant here. Giant freezers operated by ammonia systems are used and temperatures as low as 60 to 70 degrees below zero are obtained.

H. C. Hunt, superintendent of the Cudahy plant, is largely responsible for the new development in which he has been aided by Harry Sloan, engineer of the Vilter Manufacturing Co. The new freezers are like immense thermos containers, series of rooms being built within others. Piping in the freezing chamber is placed on the ceiling and side walls. There is .95 sq. ft. of pipe surface to each cubic foot of the room to be refrigerated. A booster compressor helps in the work of holding down the temperature.

Large cuts of pork such as hams, bellies and loins are placed in the freezing rooms, and are frozen in 8 to 10 hours. They start at fairly high temperatures, the temperature being gradually reduced until the low figures are reached at the end of the freezing period. The cuts remain in the freezer for 24 hours, or often less, instead of the 48 to 72 hours required by the older practices.

At present the new freezer is being worked on a 24-hour schedule. The meats are put in each afternoon, frozen during the night and removed the following morning. When the meats are taken out of the freezers they are dipped into water and glazed with ice. They are then placed in storage at a temperature of 10 degrees F.

The meats are frozen unwrapped and are reported to be free from any indications of freezer burn. The freezer now in operation has a capacity of 150,000 pounds.

Examination of the meats after freezing has revealed that there is no loss of weight, in fact, in most cases an actual gain in weight was recorded. The drip or leakage, which is usually present when meats are slowly frozen, also was absent. The new freezer has proved a great space saver and Mr. Hunt and other Cudahy officials are much pleased with the results obtained. The process will be used for other meats.

PEACHES

From Georgia Orchards Will Be Frozen for National Distribution

IF plans now being made are carried through to successful completion—and there is every indication that they will be—the American public will have an opportunity to eat fresh Georgia peaches next winter. To be precise, the peaches will be quick-frozen, but they will preserve the appearance and taste of the fresh fruit.

A few fortunate individuals ate frozen Georgia peaches last winter, and practically unanimously declared them equal in texture, color and flavor to the fresh product. These individuals owed their midwinter peaches to the enterprise and persistence of W. R. Tucker, agricultural expert of the Atlanta, Birmingham & Coast Railroad, who conceived the idea more than two years ago that freezing might be utilized to save some part of the enormous portion of the Georgia peach crop that is thrown away each year. The shipping season for Georgia peaches is so short, only a couple of weeks in July and early August, that in some years more than forty per cent of the crop rots on the ground. Thousands of carloads of peaches are wasted in this manner, and the effect on the peach growing industry has been all but disastrous.

Various Methods Tried

In an effort to find a solution for this problem, Mr. Tucker decided to experiment with freezing. With the co-operation of the Georgia State Bureau of Markets, which appropriated $1,000 and offered all of its facilities at the State Experiment Station at Griffin and elsewhere, and the aid of other organizations, Mr. Tucker froze about 10,000 pounds of peaches last July. Various methods of freezing were tried. Some of the peaches were frozen quickly with dry ice, others were sharp frozen, others frozen slowly. Some were covered with syrup, others with sugar, and still others frozen without the addition of any other substance. All were pitted and sliced before being frozen, and all were frozen in two-pound packages.

Some of the freezing was done at the plant of the Atlantic Ice and Coal Co., in Atlanta, and about 5,000 pounds were frozen at Woodbury, Ga., and brought to Atlanta for storage in refrigerator cars with dry ice covering the floors.

Results Uniformly Good

As Mr. Tucker told the members of the American Society of Refrigerating Engineers at their Atlanta meeting, it seemed to make little difference which freezing method was used. All seemed to work equally well. The peaches came out as they went in, with rich, fresh flavor and good color. In some cases a slight discoloration was noticed, some of the peaches having a rusty appearance, but the flavor did not seem to be affected.

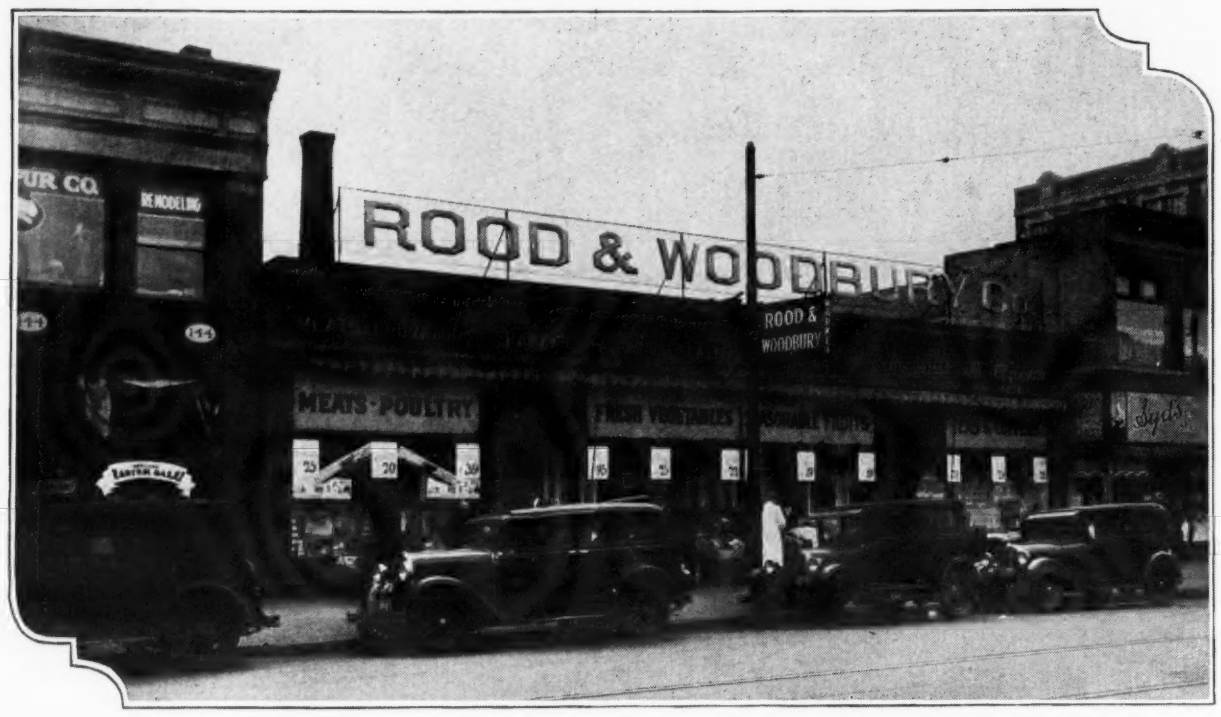
By packing the peaches in small quantities, two-pound boxes, cans or glasses, all three kinds of receptacles were used, the freezing was done evenly, and there were no heavy masses of fruit to crush the slices at the bottom of the heap. Mr. Tucker is a firm believer in sticking to small units, and his future operations are based on that theory.

Well Directed Publicity

When his 10,000 pounds of peaches had been frozen, and had been frozen successfully, Mr. Tucker waited until last year's fresh peaches were well out of the way before beginning the second stage of his campaign. An accomplished and experienced publicity man, he began sending his peaches where they would not only be appreciated, but would be sure to spread the good news of fresh peaches in midwinter. Large quantities of peaches were sent North and distributed among prominent men, hotels, restaurants, clubs and similar organizations. A 1,500-pound shipment went along with the London Naval Conference delegates on the George Washington. The Biltmore hotels in New York and elsewhere, the famous Alice Foote MacDougal coffee shops, big hotels in the Northwest, and in other sections, served Georgia peaches to their patrons last winter. In most cases requests came back to Mr. Tucker for more, but he was obliged to decline, stating that the peaches were only samples, and the freezing operations were not yet upon a commercial basis.

(Concluded on Page 2, Column 4)

A Campaign Stronghold in Springfield



Rood & Woodbury Store is the Largest of the Group Selling Birdseye Frosted Foods.

(Concluded from Page 1, Column 3)

500 stores in operation in Rocky Mountain and Pacific Coast areas. He seemed favorably impressed with what he saw of the General Food Corporation's operations with the frosted foods.

House-to-house work by General Foods demonstrators is being continued in various neighborhoods of the city and Longmeadow. This work is said to have brought a great many new customers for the lines.

The policy of running Friday and Saturday specials is being continued. On May 1 and 17 a pound of top round steak, selling regularly for 59 cents, and a package of raspberries regularly sold for 33 cents, were put out for 75 cents. Hamburger steak was sold at 35 cents a pound, calves' liver at 85 cents, and stewing veal at 39 cents.

Another store has been added to the list of establishments engaged in retailing the Birdseye Frosted Foods here in Springfield. It is Morris Snyder's market at 25 Sumner Ave. This is of a type that is a little different from any of the others. It has a high-class, exacting trade, and price-cutting does not have any part in its policies. It combines the meat and grocery lines. The Birdseye products were introduced there a few days ago and have met with a good reception. The location is in the most exclusive part of the Forest Park district, on the route to Longmeadow. This store makes use of Frigidaire equipment for storing and displaying the foods.

PEACHES

(Concluded from Page 1, Column 5)

As a result of his publicity campaign, Mr. Tucker has succeeded in interesting capital to the amount of about $250,000 in a project for freezing a substantial quantity of this year's crop of Georgia peaches. The present plans call for the freezing of from 1,000,000 to 1,500,000 pounds of peaches this season, and putting them on the market throughout the country. It is expected that the actual freezing operations will be begun at Montezuma, Ga., and a system employing specially designed belts passing over brine tanks will be used.

Of course, 1,500,000 pounds is only a small part of the Georgia peach crop, but the men behind the venture feel that such an amount can be marketed profitably this year, and larger quantities can await future seasons. The company which is undertaking the work has been incorporated under the name Icebound Products, Inc., and it is planned later to extend its activities to the freezing of other fruits and berries. A recent article in the Atlanta *Constitution*, dealing with the new company's plans, says:

"Announcement of organization of Icebound Products, Inc., as the first unit of a quarter of million dollars capitalization, to freeze and market Georgia peaches, was made at a dinner of the Atlanta Retail Food Dealers' Association by W. R. Tucker, agricultural agent of the A., B. & C. Railroad, and the moving spirit in guiding the frozen peach process to commercial proportions.

"The first plant unit, Mr. Tucker told the Atlanta retail food dealers in making the announcement, will be located at Montezuma, where a large block of stock has been subscribed by growers and business men, and where a five-year supply of peaches has been contracted. Present plans call for establishment of similar plants in other Georgia towns in the peach belt to take care of next year's crop.

"Selection of offices and managers for the plant will be entirely in the hands of the stockholders and directors, said the speaker. One of the most experienced canning plant managers in the country has been attracted by the new process, and is expected to be available to the directors when they begin the selection of the plant operating personnel.

"The thing that I desire most to say at this time," Mr. Tucker continued, "when the success of the proposed enterprise from a commercial standpoint seems assured, is to give credit where credit is due for the progress made.

"First, I desire to mention the State Bureau of Markets. The first step in the long list of investigations I have made was made possible by the action of Commissioner of Agriculture Eugene Talmadge, and A. D. Jones, director of the Bureau of Markets, who furnished funds to buy the peaches and furnished the initial expenses of the experiment upon which future studies were made. The Coca-Cola Company furnished dry ice; the Fruit Growers' Express furnished refrigerator cars; the United States Department of Agriculture furnished a specialist; the Atlantic Ice and Coal Company stored the products, and we had the co-operation of the foremost refrigeration, canning and cold storage engineers of the country.

"Thus the consummation of plans leading up to this announcement has been made possible by a bringing together of many forces, and the finest sort of co-operation from many Georgia men and Georgia companies. Among all the valuable contributions that have made this announcement possible, it is only fair to give the chief credit to the industrial department of the Georgia Power Company, which spent months and spared neither pains nor money to make a most thorough study and report on the organization and set-up of the proposed company.

"Preliminary work toward organization of Icebound Products, Inc., Mr. Tucker explained, cost more than $30,000. No expense or pains, he said, have been spared to make sure that when the company should go to the state for support it would be sure of its ground, both from the standpoint of the investor and from the standpoint of the peach grower, whose interests, it was pointed out, has been the chief incentive guiding those who have shared in the labor of upbuilding a great new Georgia industry.

"Engineers of one of the largest cold storage and construction companies in the country, Mr. Tucker told the retail food dealers, are now in Atlanta conferring with him on plans for the building and ordering of special refrigeration machinery, and there is every prospect that the plant will be ready to handle the first peaches that ripen in the Montezuma belt."

When you sell CORK Insulation . . *you don't sell an experiment*

BEFORE you stock your new line, find out what insulation protects the refrigerators. You can't stake your reputation on insulation that is untried, untested, that *might fail!* With corkboard, you know that both you and your customers are safe. Otherwise you are not so sure. You may be expected to merchandise an unknown quantity. And that's *not* good business.

For years corkboard has been the standard insulation of commercial refrigeration. This statement cannot be denied. Ask the meat packing, the ice cream, and the other important industries that depend on quality insulation to safeguard millions of dollars—yes, lives, too! Those keystone industries have made conclusive tests with other materials. If there's anything in what they have found out, you, too, will refuse to accept anything but corkboard insulation. That's *good* business.

Corkboard insulation is dependable. Under *any* circumstances—for any length of time—it protects. You know that cork is moisture resistant. Consequently corkboard is the only material that permanently withstands the ravages of moisture within refrigerator walls.

If you want to be sure that the automatic refrigerators you sell give long life and dependable service, ask the manufacturer about his insulation. He won't try to dodge that question if he can say: "My refrigerators are protected by the standard of all good refrigeration insulation—corkboard!" For further information, write Armstrong Cork Company, 917 Concord Street, Lancaster, Pennsylvania.

Armstrong's Corkboard Insulation

The Standard Insulation For All Refrigeration

Second Story Work

Bridgeport, Conn.—When windows, doors and stairways proved too small to admit a one-ton A. P. 60 Frigidaire commercial box, K. D. Woundy, service manager for the Downes-Smith Company, local Frigidaire distributors, had to call on a motor truck mounted crane to swing the big unit into position for installation in Schopick's restaurant, 1250 Main Street, recently.

The box was taken to the installation address in a Downes-Smith truck, and a crew of men blithely picked it up and started toward the front door. They reached the door, and after a few futile tries, decided to try the rear. The back door proved wide enough, but the rear stairs creaked ominously under the weight of the 2,100-pound unit, and it was decided there was no business there.

Next, under Mr. Woundy's direction, they tried the ground floor windows. Also to no purpose.

The matter was getting serious. Mr. Woundy took a look around. A back door of the second floor Schopick restaurant opened on a roof. Measurements showed this door to be too narrow, but close figuring finally resulted in a decision to remove the door casing. This was done, and a ruler demonstrated that the big 60 would go through.

Then a Universal motor truck crane, operated by the Bridgeport contracting firm of Edgerton & Sons, Inc., was called in and soon the refrigerator swung in mid-air, dipped experimentally a couple of times and finally was deposited on the roof. The moving crew eased it through the dismantled door hailed by applause.

Small Doors are no Barrier to Food Preservation.

General Foods Corporation uses Frigidaire-equipped cases in frozen food experiment

GENERAL FOODS CORPORATION, in the Springfield, Mass., experimental merchandising tests with frozen foods, is using low temperature cases equipped with Frigidaire. Frigidaire's *extra* power assures the *extremely* low temperatures necessary to *keep* frozen foods *frozen* and in perfect condition.

In any store handling frozen foods, Frigidaire can duplicate its Springfield performance . . . and in the same efficient manner. For Frigidaire can be installed in *any* cases *properly designed* for frozen food storage.

And for normal refrigeration, Frigidaire equipment can be put in present counters and coolers. Or, if the merchant prefers, he can buy *complete* Frigidaire Commercial Refrigerators.

Today, more than ever before, Frigidaire demonstrates its extreme adaptability to the changing demands of food merchandising. Now, more than ever before, Frigidaire offers an unequalled sales opportunity to dealers.

Get full details about Frigidaire equipment for commercial and domestic uses and the Frigidaire dealer franchise. Write today. Frigidaire Corporation, Subsidiary of General Motors Corporation, Dayton, Ohio.

FRIGIDAIRE

Electric Refrigerators for Homes . . . Heavy-duty Refrigerating Equipment for Stores and Public Institutions . . . Electric Water Coolers . . . Ice Cream Cabinets . . . Milk Cooling Equipment . . . Room Coolers

G. E. ACTIVE IN SPRINGFIELD

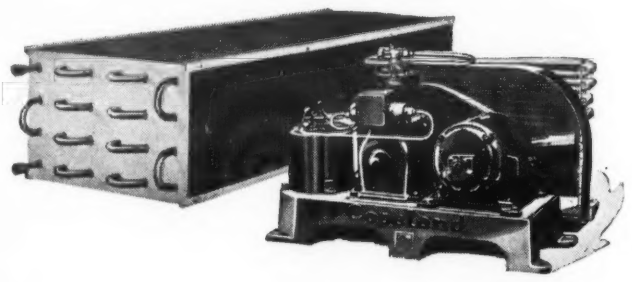
Springfield, Mass.—Electric Device Co. has opened a branch at 8 Amity St., here, for the sale of General Electric refrigerators. G. E. Collis, formerly of the Western Counties Electric Co., is Manager.

Fall Mountain Electric Co. of Bellows Falls, Mass., has been appointed a dealer for the General Electric refrigerator.

The Birdseye Frosted Foods sales campaign conducted by the General Foods Corporation has stimulated the interest of the entire city in refrigeration and refrigerators.

NO
DEFROSTING
NUISANCE
with
COPELAND
COMMERCIAL
REFRIGERATION

—and that's another reason why Copeland dealers are reaping more and more of the profits in the commercial equipment field!



Copeland dealers are getting a larger and larger share of commercial refrigeration business, because they have more to offer the grocer, the meat man, the restaurateur, and the florist.

For Copeland commercial equipment is in a class by itself. It utilizes a brand new principle which minimizes the greatest source of dissatisfaction in commercial refrigeration . . . the dissatisfaction resulting from heavy deposits of frost on the cooling coils.

This frost is drawn from the air and the foods in the box. Its removal robs them of weight, spoils their appearance, and so cuts deep into profits. Furthermore, the machine must be shut down regularly for defrosting—a messy, costly and tiresome job.

The dealer who can offer storekeepers of his town refrigerating equipment free from these objectionable features has a decided advantage over the rest of the field. And the Copeland dealer is that man.

Why not find out more about the refrigeration franchise which not only covers the household market successfully, but is fast dominating the commercial field as well?

USE THE COUPON BELOW

COPELAND SALES COMPANY, MOUNT CLEMENS, MICH.

Please send me information about the Copeland franchise.

Name_____

Address_____

The Savannah Barbecue Stand That Grew Up To Be a Restaurant

Only Quick Frozen Steaks Served Here.

(Concluded from Page 1, Column 2)

ture that he found that it would ruin his other goods.

He satisfied himself, however, that quick-frozen meats are saleable, and he hopes to obtain suitable equipment by next fall and make quick-frozen meats a regular item. Mr. Wilkins knows the meat business from beginning to end. A number of years ago he was one of the biggest cattle operators in the state. He views the advent of quick-freezing as a distinct step forward and feels that in communities like Savannah it will meet with unqualified success. He conducted his one week-end sale merely as an experiment, and it confirmed his views.

C. S. Stewart, who runs the Stewart Grocery Company, is another Savannah believer in quick-frozen foods. During the summer months he is planning to reconstruct the interior of his store, and among his new equipment will be low-temperature cases, which will enable him to sell quick-frozen meats. He has been watching the development of the quick freezing of food products, and sees in it an opportunity for a business such as his.

Swift & Co. have a star buyer of quick-frozen meats in the person of Johnny Harris, known far and wide as the owner of one of the most prosperous and best barbecue stands in southern Georgia. That is, it was a barbecue stand and little else until a short time ago. Now it is probably the only roadside restaurant in the United States that serves quick-frozen steaks, and only quick-frozen steaks, to its customers. The barbecue trade still goes merrily on, but in addition Johnny Harris now has a separate building containing dining rooms, in which he serves his more pretentious meals. A few weeks ago he read about quick-frozen meats, and decided that they were what he needed for his discriminating trade. He came to Swift's, made his first purchase, and has been a steady customer ever since.

In serving his quick-frozen steaks and chops, Johnny capitalizes the fact that they are quick-frozen, prepared by a process that guarantees their quality. When a customer orders a steak, Johnny goes to his big Frigidaire, takes out a frozen steak, walks into the room where the customer is, unwraps the steak in the customer's presence, points out the splendid color of the meat, asks his patron to feel the hard texture of the frozen meat, and tells how the new process preserves the flavor of fresh meat at its best. One and all of his patrons have caught his enthusiasm and come back again and again for quick-frozen steaks. Johnny Harris is doing a splendid job in advertising the benefits of quick freezing to those citizens of Savannah who visit his roadside restaurant.

The Host

Johnny Harris

Incidentally quick-frozen steaks are not the only attraction at Johnny's establishment, although strangely enough he doesn't advertise his other drawing cards as earnestly as he does his frozen meats. Like Alfred E. Smith in the days when he was Governor of New York, Johnny Harris has a private zoo. It isn't visible from the road, but once inside the parking space, visitors are confronted by an interesting collection of animals and birds. Three active little monkeys, a large baboon, a couple of wildcats, two coons, one of them of an unusual yellow color, goats, sheep, quail, wild duck, geese, turkeys, and several other species of beasts and birds comprise the little zoo. Johnny calls them all by name, and all seem happy, especially the monkeys, when he comes in sight.

Any mention of the progress that quick-frozen meats are making in Savannah would be incomplete without the names of the two men who are pushing the new products most actively. H. P. Meighen, Savannah manager for Wilson & Co., and H. A. Hobbs, who occupies a similar position with the Swift organization, are doing their full share to establish quick-frozen meats as part of Savannah's approved menu.

In the Harris Zoo

The Monkeys Entertain Visitors.

BEAUTIFICATION

PRACTICALLY every city in the United States has at least one local paper that stages a cooking or beauty school for its women readers. Local merchants are asked to co-operate with the papers and make it a success by advertising.

At these schools housewives are taught how to improve their complexion, how to cook, and numerous things that a housewife does around the home.

One of these beauty schools was held at Birmingham, Ala., and was sponsored by the Birmingham News and Age-Herald, recently. One of the merchants participating in the school was the Birmingham Gas Company, Birmingham distributors for Electrolux.

The school was held in a downtown theatre in the heart of the shopping district. And in the lobby of this theatre an Electrolux machine was on display.

A. H. Ayres, manager of the refrigeration department of the Birmingham Gas Company, was asked if any results were noticed from the company participating in this school, and if the results were satisfactory at all. "Yes, the results were quite satisfactory. The machine in the lobby of the theatre attracted quite a bit of attention. The woman conducting the beauty lectures demonstrated the use of ice cubes made from an Electrolux machine in beautifying the complexion."

The woman lecturer incidentally demonstrated Electrolux machines exclusively at the school. This was in the agreement. No two products offered by two different stores were demonstrated. This, Mr. Ayres said, gave the companies participating in the stunt an exclusive representation. No competition.

There was little advertising necessary to put the school over. At least not for the Birmingham Gas Company. The newspapers looked after that, and since they were sponsoring it, a large amount of publicity was given it.

So it wasn't necessary for the Birmingham Gas Company to do any advertising of their own accord. There was not even a single piece of direct mail advertising sent out.

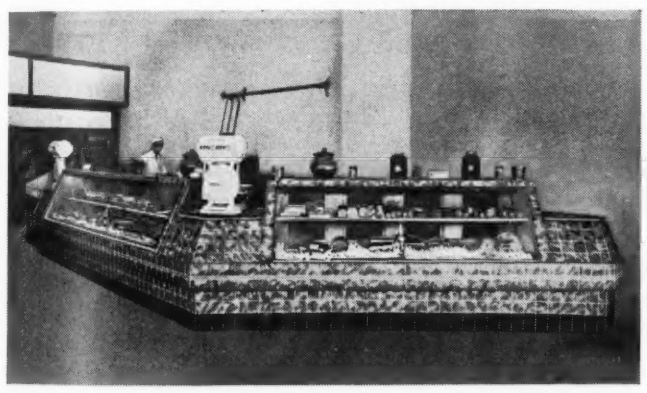
The women attended the lectures because they knew they would learn something about their favorite hobbies and duties. Little advertising was necessary. The school extended over three days, with two lectures a day, one in the afternoon the other in the evening.

"We received a large number of inquiries by participating in the school, and I do believe that it proved a profitable promotion stunt for us," Mr. Ayres said.

For GROCERS

Super-Cold makes it profitable for the grocer to handle cut fresh meats. Cut meats will keep in perfect condition until sold. Will not dry out, discolor or contaminate. Nearly 2,000 Super-Colds in Western Grocery stores are earning their own monthly payments, and showing a big profit besides.

For BUTCHERS



Illustrating how Super-Cold is arranged in Multiple for the meat market. Super-Cold will save ANY $700.00 a week market over $2,500.00 a year. Hundreds of market owners will back up this statement.

For FISH MERCHANTS

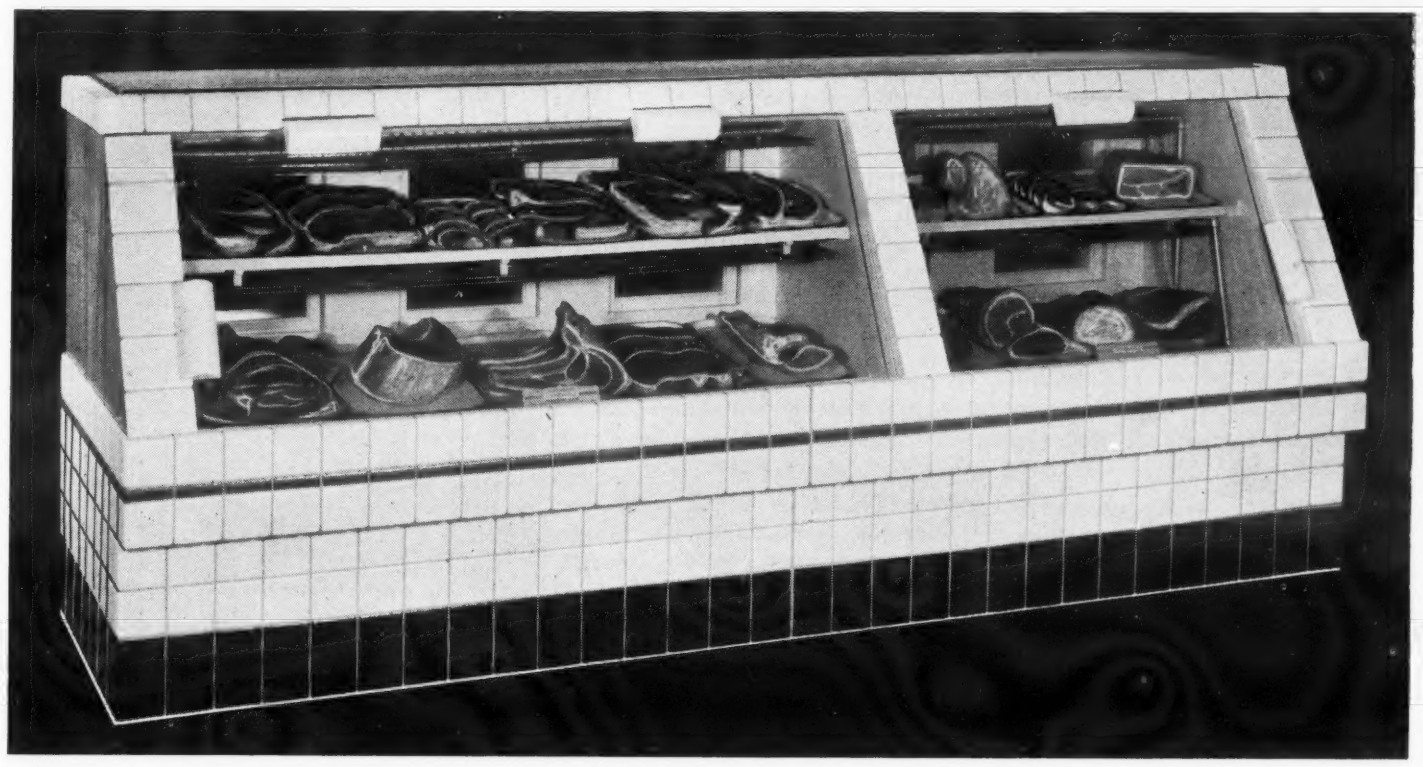
Photo of "Sea Foods, Inc." who operate a chain of sea food stores. They store and display sliced and whole fish in their Super-Colds without using cracked ice or without a storage box. Fish keeps many days in Super-Cold without drying out or spoiling.

A KNOCKOUT

For Electric Refrigeration Dealers

THE ELECTRIC SUPER-COLD "ZERO" DISPLAY *and* STORAGE REFRIGERATOR

Two Temperature: For Fresh and Frozen Foods
Two Decks of Display, One Deck of Storage



"Automatically Controlled for Humidity and Temperature"

SEVEN YEARS' TIME AND A FORTUNE WERE EXPENDED TO PRODUCE THE PERFECTED "SUPER-COLD." COMES COILED, READY TO CONNECT TO ANY SULPHUR-DIOXIDE OR METHYL CHLORIDE MACHINE. HERE IS SOMETHING THAT DEALERS HAVE BEEN WAITING YEARS TO SECURE.

SOMETHING NEW ! ! SOMETHING DIFFERENT ! !

What Super-Cold Does

1. Fish, cottage cheese, butter, meat, pickles, etc., all kept together without odor transfer.
2. Keeps cut meat red and moist till sold.
3. Prevents discoloration or spoiling.
4. Even temperature on all shelves.
5. Crack-proof tile in many colors.
6. Can be changed from fresh food to frozen temperatures in 5 minutes time.
7. Glass front will not fog or sweat.
8. Sweat-proof drain pans.
9. Cost to operate from $3.00 to $4.00 per month.
10. Prevents dehydration of fresh foods.

A Rapid and Easy Seller

Nearly 2,000 Super-Colds sold on the Pacific Coast in 1929-30 by an average of 22 trained salesmen. These tried and proven sales plans furnished to our dealers. Distributors and Dealers find in Super-Cold an easy and very rapid seller. Live, progressive Dealers are "cleaning up" on this proposition. If we do not have a Dealer in your territory, here is your opportunity to secure a tremendous profit producer. Very liberal discounts to Dealers.

OUR 4-ACRE PRODUCTION FACTORY DELIVERS SUPER-COLDS TO YOU AT A REMARKABLY LOW PRICE

Write today for Booklet outlining this proposition

Commercial Refrigerator Mfg. Co.

1020 East 59th Street
LOS ANGELES, CALIFORNIA
U. S. A.

REFRIGERATED FOOD SECTION

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published by

BUSINESS NEWS PUBLISHING CO.

550 Maccabees Building, Woodward Avenue and Putnam Street
Detroit, Michigan. Telephones: Columbia 4242-4243-4244

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VOL. 4, No. 19, Serial No. 95 — May 21, 1930

Education

WHOSE job is it to see that quick-frozen foods have a full and fair chance to win the public acceptance that they deserve? Is it up to the producer, the retailer or possibly the equipment manufacturer, to determine whether or not these new products in which so much thought and money already have been invested shall become a recognized factor in our daily living?

At present there seems to be a great deal of doubt on that point. A tendency to pass the buck to the other fellow is turning up here and there. Everybody concerned seems to agree that quick-frozen foods have a great future before them, but some extremely obvious ways of persuading that future to hasten its steps are being overlooked.

That statement is written with full knowledge of the fact that some of the men, who have been laboring long and hard in the development of quick-frozen foods, have said frequently that this new branch of the food industry is in more danger from its friends than from its enemies, that too much haste may endanger the whole great development which promises so much.

Nevertheless, the fact remains that three of the leading meat packers of the United States are now producing considerable quantities of quick-frozen meats, that other packers seem likely to follow their example, that one of the greatest food distributing organizations in the country has entered the field, that quick-frozen fish have been sold for several years, that increasing quantities of fruits and berries are being frozen each season. How much real money is being spent this year in the actual production of quick-frozen foodstuffs is something that no one can know in the present formative state of the industry, but the amount is big and is growing bigger every day.

And that brings us back to the questions at the head of this column. With so great a sum being spent in actual production, whose job is it to see that the public has a chance to become fully acquainted with the merits and demerits of quick-frozen foods?

What are the producers doing? Take the packers first. On one point they are in a rather unpleasant position, and some of the reports from the South which appear elsewhere in this issue of the Refrigerated Food section, give a pretty clear picture of the difficulty of their situation. The average butcher in that section of the country, and in other sections, too, sees in quick-frozen foods a threat against his very existence. He will have none of them. The branches of the packing houses encounter this antagonism, and find themselves in a tight fix. If they push the new products too zealously they will incur the enmity of their present customers, the butchers. If they don't push quick-frozen foods, they leave the way open for others to step in and capture the market.

That seems to leave the powerful General Foods Corporation in a strong strategic position, a fact which is commented on by a writer in Printers' Ink, who says: "Incidentally another problem that is worrying the packers . . . . is that the entrance of General Foods into the field of selling meat puts another powerful competitor into an already crowded industry. This is an angle that is going to become of increasing importance, particularly when General Foods extends its experimentation, as it is undoubtedly planning to do."

So much for the producers and their share of the job. That leaves the retailer and the equipment manufacturer. What is their responsibility? One thing is certain: these two must work together, whether or not they get help from any other source. But even working together they can't do the job alone. They need help.

After all they occupy a place in between the producer and the consumer and so must be governed by the actions of others. They cannot control the situation. There is every indication that, with the exception of the butcher the average retailer is in a receptive mood on the subject of quick-frozen foods. The equipment manufacturer goes further than that. His mood is aggressive. He has display cases that he believes will handle the new products and he wants to see them tried out by actual experience in the field. He is putting his name and reputation behind his product, and feels confident that his cases will stand the strain. He announces that he is ready to go.

A campaign of education seems to be in order. The consumer must have a better chance than he has today to become acquainted with quick-frozen foods. He should have an opportunity to learn their good qualities through personal experience. This new industry should put its best brains to work in a whole-souled effort to give him that opportunity. The sooner the better.

Dutch Delicatessen

ONE of the first commercial electric refrigerators in Holland is this Servel equipment installed by Tadema in Pijttersen's Mathscappig, of Amsterdam, Servel distributors, in the store of W. L. Verbing, also of Amsterdam.

Not only was the machine installation made by Tadema, but they also built the display case and cooler. Much thought is now being given to the refrigeration of foods by retail merchants throughout Holland.

A CAPE COD HEIFER

Started G. F. Swift in the Packing Business—Henry H. McKee's Address Before the Foreman's Club of Fort Wayne

THE meat industry, which is like every other industry, has been one of progress. About three-quarters of a century ago, the founder of our business borrowed twenty dollars, spend eighteen of it for a heifer, slaughtered that heifer behind his father's barn, and then the following Monday morning started up and down Cape Cod in Massachusetts and peddled the meat from the tail of a cart.

When he had sold all the meat at the end of the week, he had ten or fifteen dollars more than he had when he started, and that represented his pay for his week's work. Today, we wish we could get even half that much as a return for our work in doing the same job.

From that simple start grew the business of Swift & Company, because Gustavus Franklin Swift was not content to continue as a Cape Cod butcher.

I won't attempt to take you through the various steps and phases of his growth. He came to Chicago, however, as a buyer of cattle for shipment to the east. It was his New England sense of thrift and horror of waste that led him to investigate ways and means of shipping the meat from the animal rather than the live animal, and it was his discovery, in large part, that brought about the building up of the modern packing industry.

You know, our business of meat packing is not like most manufacturing businesses. For example, some of you may have to do with the building of automobiles or automobile trucks. Well, if you do, you know that you gather materials from the four corners of the earth, rubber from one far part of the world, steel made from iron ore shipped long distances, and glass for the windshields and other places. And when these and other materials are all put together, you have a finished product.

We don't do that. As a matter of fact, in the meat business we *buy* a finished product, a product on which some farmer or livestock producer has worked for many, many months to complete. It may be a hog, a sheep, a calf, or a steer. It has required patient effort of someone for months to bring it to ripeness and completion. Then a meat packer buys it and instead of building something out of it, he *"disassembles"* it into not one product but into a hundred or more.

And in that process of "disassembling," we found that we were the first people to adopt straight-line production.

You know, a thousand-pound beef steer isn't all meat. As a matter of fact, there is only an average of 550 pounds of meat and about 150 pounds of hide and other finished by-products. The other 300 pounds is waste and evaporation or shrinkage. In that 150 pounds we find some very valuable glands which are made into medicines that have saved thousands of lives.

That doesn't mean that the gland itself is worth much money. It is of interest to know, for example, that it would take the glands from many thousands of cattle to make a pound of insulin, of which most of you have heard as a treatment for diabetes.

Then, you know, certain parts of the viscera of some animals are used for fiddle strings. Your automobiles wouldn't ride so easily if it wasn't for hair upholstery. And your feet wouldn't be so comfortable if it wasn't for the leather in the shoes to protect them. And the motion picture film which you saw last night wouldn't have run so smoothly if it hadn't been coated with gelatin made from bones and sinews. But I didn't come here to talk about by-products; I came here to discuss the selling of meats and what we have to do to make them saleable.

After G. F. Swift, our founder, discovered that he could ship the beef, he helped to develop a car in which it could be shipped with safety, and that's the refrigerator car.

Beef used to be sold in carcasses—a rather wasteful way, because some markets have a terrible time to sell some cuts and some markets have a terrible time to sell other cuts. A good many years ago, when Swift decided to offer the retail dealers a chance to buy such cuts as they could sell to best advantage, it was prophesied that he was fighting a windmill and would go broke doing it; but he didn't. And so, for many years the packing industry has been selling both carcass meat and meat in cuts.

Then the cities grew bigger and the families grew smaller, and there came a demand for smaller retail cuts, until today the retailing of fresh meat cuts in identifiable packages is nothing more than a continuation of the trend which has been taking place in the packing business over the past twenty-five or more years.

A quarter of a century ago a large percentage of our fresh meat business consisted of selling the whole carcass of beef, veal, lamb, and dressed hog. Then came the time when the carcasses were cut into smaller-sized cuts. At the present time, there is practically no business at all in dressed hogs, and a gradual decrease in demand for whole carcasses of beef, lamb, and veal.

Some years ago it was not uncommon to cut as many as 4,000 hogs a day, making only three primal cuts—New Orleans shoulder, rough ribs, and hams. Let me show you the contrast today. It is not at all uncommon to make as many as 150 items of pork cuts, a large percentage of them having trade names and being sold by brand.

Then, too, there is a gradual increase in the demand for beef cuts, replacing carcass beef. It is only a few years since bacon was sliced and sold in packaged form. When we first began to slice and package bacon, the comment most frequently heard was that it would not prove satisfactory, due to the fact that some people wanted their bacon cut thin while others wanted it sliced thick. Also, it was argued that if a piece of bacon was sliced, packaged, and carried for probably a week or ten days, it would loose a certain amount of its flavor.

In spite of these objections, the public liked the new package and the volume of business has continued to grow. We package as much as 200,000 pounds of sliced bacon in ½-pound and 1-pound packages per week, in one plant. No doubt, we will see this business grow to where it will not be uncommon to find one of our plants doing as much as one-half million pounds of bacon and other smoked meats in one week.

Packaging of fresh meats, however, is more of a problem than packaging smoked or cooked meats. It is due to this, no doubt, that fresh meat has not been packed up to this time. If it had been as simple and easy a job, no doubt we would have been able to buy fresh meats in identifiable packages a number of years ago.

One of the first essential things that is necessary in the packaging of fresh meats is that it must be strictly fresh and in perfect condition, and also that it must be frozen in low temperature.

Swift's new freezing method is simply time and temperature.

The quickness of freezing depends entirely upon the size of the product that is being frozen. For instance, you could take a quarter of beef, put it in a freezing temperature of 20 degrees below zero, and you would probably find that it would take 8 to 12 hours for it to freeze thoroughly. If you take the same piece of meat and cut it up into steaks and roasts, you could freeze it in the same temperature in from 1 to 2 hours, depending entirely upon how thick the different cuts were made.

We were fortunate in having had a considerable experience with this new freezing method covering a period of the past 15 years. About 15 years ago we adopted an entirely new method of packaging and freezing fancy meats, which is the name applied to liver, hearts, sweetbreads, brains, kidneys, ears, snouts, etc. We spent considerable time in proving what we term a satisfactory package of fancy meat.

In our work on this job we made an extra effort to make the package as attractive in appearance on being opened by the dealer as possible, arranging the different items in the box in neat rows and of a uniform size. In the very beginning of the packaging of fancy meats, a suggestion was made that our packages of fancy meats, after being completely packed, be placed in low temperature of zero to 5° below, separating each package to permit complete air circulation, with the idea in mind that by freezing quickly the product would hold its position in the package much better than if frozen in a higher

(Concluded on Page 11, Column 2)

PORK'S POPULARITY

PER capita consumption of meat, excluding lard, was 136.8 pounds in 1929, compared with 138 pounds in 1928, and 149.7 in 1924, which was the record year since 1908, according to a recent statement by the Bureau of Agricultural Economics, United States Department of Agriculture. The smallest per capita consumption in the last thirty years was 120.1 pounds in 1917. The amount of lard used per capita in 1929 was 14.3 pounds, as against 14.7 the previous year. Pork is still the most popular meat in the American diet, last year's per capita consumption being 72.8 pounds, as against 73.9 in 1928. Per capita consumption of beef and veal decreased slightly last year, and lamb and mutton showed a slight increase, as compared with 1928.—*Domestic Commerce.*

ROAD WORK

Detroit, Mich.—Miss Mary E. Kirk, director Home Economics Department, Kelvinator Corporation, returned recenty from a six weeks' trip through Tennessee and the New England States. Miss Kirk conducted a series of Kelvinator cooking schools at major points in Tennessee and reports very satisfactory results. The trip through the New England States was devoted to conducting one day classes at many points and in addition some time was spent working with the home service directors of several large utility companies. While in Portland, Maine, she was in charge of the Kelvinator booth at the Portland Food and Home Progress Exposition.

Miss Kirk states that an intense interest is displayed wherever these classes are held and that the women's enthusiasm in the subject of refrigeration and food preservation is evinced by the questions they bring out in the discussions following each class.

Miss Marion F. Sawyer, home economist of the Kelvinator Home Economics Department is in the field at this time, conducting cooking school classes at various cities throughout the south. While on this trip she will visit Virginia, Louisiana, Arkansas and other southern states.

DEFROSTING

Kansas City, Mo.—Miss Alice Robertson, home service director in the model kitchen maintained here by Glueck & Co. in the merchandising of G. E. refrigerators, has had more than a year's patient experimenting justified in the adoption of her method of defrosting by the General Electric Company.

The method has been tried out in Schenectady and proved as successful as Miss Robertson found it in Kansas City. The test made at Refrigeration Institute was also satisfactory. The method is much quicker and simpler than the overnight method formerly used.

Following are the instructions as they will be given the Home Service Directors:

"Turn off the electric current. Fill the large tray three-fourths full of hot (not boiling) water and place in the chilling chamber, just as you would for freezing ice cubes. Then close the doors.

"The steam from the water will loosen the frost inside the unit; the frost on the outside of the unit will then loosen and the whole amount that has accumulated over the period will slip off in one large sheet of ice into the tray below.

"This process of defrosting can usually be conveniently applied just after the evening meal. It is much more rapid than the overnight method and is particularly advantageous during the summer months, when larger quantities of ice cubes are needed.

"The time for defrosting has been shortened. The usual time required under this method for defrosting the various models after the average run varies from 20 to 50 minutes."

Miss Robertson has been with Glueck & Co. a little more than a year, coming here from Omaha, where she was chairman of the Home Service Committee of the Mid-West Division of N. E. L. A.

REFRIGERATION NO LONGER IN LUXURY CLASS

Toledo, Ohio.—Speaking before the Toledo Advertising Club recently, Walter J. Daily, sales promotion manager of the electric refrigeration department, General Electric Company, declared that the electric refrigerator has passed from the luxury class to that of the everyday necessity.

Advertising and sales promotion have played a big part in the work of educating the general public to the necessity of adequate refrigeration, not only in the home, but in commercial establishments as well, he said.

Hot and Cold

AN electric refrigerator and an electric range combined is the latest contribution of Frigidaire engineers to the convenience of apartment house dwellers, and to the solution of the space-conservation problem of apartment owners and builders.

Designed especially for the New York type of apartment, which is a model of compactness, the combination meets the current demand for kitchenette devices which require a minimum of floor and wall space. Its convenience, utility and economy make the combination a decided feature in the eyes of prospective tenants.

Overall dimensions of the combination are 55¼ inches high by 26¼ inches wide by 23 inches deep. The cooking top of the range is at a convenient height 43 inches from the floor. The oven, which is at the right of the cooking top, unless otherwise specified, is 12½ inches wide by 13½ inches high by 17 inches deep.

The refrigerator cabinets come in two styles, finished either in cream white Duco or in gray and white porcelain-on-steel. Each is equipped with the Frigidaire cold control. The food storage capacity of the refrigerator cabinet is 3½ cubic feet. Total shelf space is 5.6 square feet. There are two ice trays, with a capacity of 24 cubes, or 2¾ lbs., at a freezing.

The range is equipped with both oven and surface burners, which can be heated at a turn of a switch. The oven burners are recessed to allow maximum space. The exterior of the range is finished in durable gray and white porcelain, while the interior of the oven is aluminum-lined, making it easy to clean. Broiler and oven are combined, making a more compact arrangement and eliminating the inconvenience of a separate door for the broiler. Either open or enclosed hotplates can be obtained for the surface burners. High grade nickel chromium resistance wire is used throughout.

Extensive tests of the combination have shown that the heat of the range has no effect upon maintenance of adequate refrigeration within the cabinet. Three inches of special, heat-resisting insulation between the range and the top of the cabinet have been provided by Frigidaire engineers.

If desired, the Frigidaire model can be obtained without the electric range. In this event, a special Duco or porcelain-on-steel top is substituted for the range. The height of the cabinet, 36 inches, makes the top ideal for use as extra table space.

Lower Temperatures

Less Running Time of Machine

Permanent Efficiency

Safe Preservation of Food

You can assure your customers of these desirable features by selling Dry-Zero insulated refrigerators. Demand them from your manufacturer —they cost no more.

THE ACTUAL FACTS

Tests have been made by impartial national authorities such as U. S. Bureau of Standards, Technical Institutes, State Universities, etc., to ascertain the *insulating value* and *moisture absorption* of commercial insulating materials. Here is a summary of the facts so established.

Material	Insulating Value	* Moisture Absorption
DRY-ZERO	4.15 to 4.3	14
Corkboard	3.1 to 3.3	28
Wood fibre board Flax fibre board Cane fibre board Mineral wool slab	2.7 to 3.3	66 to 115

* The Dry-Zero fibre, Ceiba, is the same as that used in all U. S. Navy life jackets.

DRY-ZERO CORPORATION, 130 N. Wells St., Chicago, Illinois

DRY·ZERO

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

FRUIT CAKE

Made for the June Bridegroom

By Sadie M. Chase
Home Economist, Kelvinator Corporation

AS we approach the "month of weddings"—June—everyone's attention is centered on the bride. However, here's just a little bit of thought for the other half of all those proposed weddings that are coming—the groom!

We hear much of the wedding cake, the bride's cake and all those things—and every now and then there is some one who thinks about the groom's cake. As we all know, this is usually some type of fruit cake. Of course, you're probably wondering what a refrigerator has to do with fruit cake.

Well, we're going to make a fruit cake for the groom who hasn't been remembered until just now, and it is going to be one of the most delicious fruit cakes you've ever tasted, and it is going to be *baked* in Kelvinator. This is one of the most outstanding recipes we have formulated this year. The old-time fruit cake took hours to bake, and then had to be left packed away somewhere for weeks, yes, even months, before serving. But, just watch us make this fruit cake a la Kelvinator—leave it in Kelvinator for two or three days, and lo! a cake emerges that combines all the best qualities of a thousand recipes. It is full of fruit, and full of flavor, the sort of cake that you always hoped to make. "One of the most delicious fruit cakes I've ever eaten"—is the way one woman recently expressed her opinion. And that's what everyone says.

Here's the recipe:

Kelvinator Fruit Cake

½ lb. Graham crackers.
1 cup dates, chopped.
½ cup raisins, chopped.
2 tablespoons chopped orange peel.
½ cup citron, sliced very thin.
¼ teaspoon grated nutmeg.
¼ teaspoon ground allspice.
1 cup marshmallows, cut into bits.
1 cup thick sweet cream.
½ cup currants.
2 tablespoons chopped candied cherries.
1 scant teaspoon cinnamon.
¼ teaspoon ground cloves.
¼ teaspoon salt.

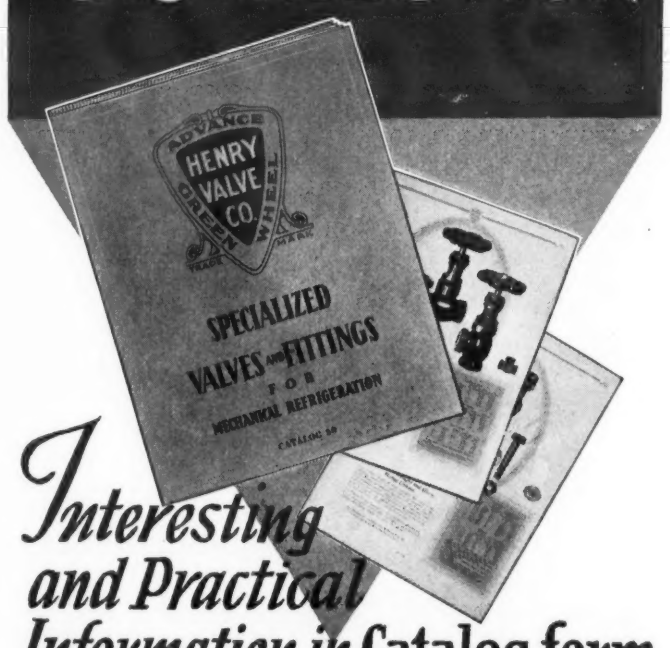
Crumb crackers rather fine, soften currants in hot water and drain. Add spices and salt to dry cracker crumbs and mix—then add other ingredients, the cream last, and mix thoroughly until cracker crumbs are all moistened. Pack into square tin or mold lined with waxed paper and let stand in Kelvinator 12 hours. Serve with or without whipped cream, or with hard sauce or pudding sauce. Makes a 2-lb. loaf.

WATER COOLERS PLACED IN SHREVEPORT OFFICE

Shreveport, La.—Among the recent installations of Frigidaire equipment made by the Automatic Refrigeration Co., Inc., were five 40-D water coolers for the office building of the Standard Oil Co. of Louisiana at Shreveport.

This company also recently installed at the Carter Restaurant a 35-foot box.

READY for DISTRIBUTION



Interesting and Practical Information in Catalog form *for Convenient Reference*

•

Here is a specialized catalog containing exact valve and fitting requirements conforming to compact design of present day equipment.

It also thoroughly outlines features and practices of great advantage to the Refrigeration Industry; all recognized standards that have firmly established Henry Products with Builders and Erectors everywhere.

You will find it valuable in arriving at installation requirements. Returning the coupon below today will make certain a copy is available for future reference.

•

HENRY VALVE CO.

3260-70 WEST GRAND AVE., CHICAGO, ILL.

HENRY VALVE CO.,
3260-70 West Grand Ave.,
Chicago, Illinois.

Gentlemen: I am interested in Specialized service. Please send me your Catalog without obligation.

Name_____
Firm_____
Address_____
City_____ State_____

KELVIN KITCHEN

Is Testing Room for Recipes

Mary E. Kirk
Director, Home Economics Department, Kelvinator Corporation

ELECTRIC REFRIGERATION NEWS has become the old standby for the men of the refrigeration industry—and is the publication to which they all turn for news of the day.

It is indeed gratifying to me to know that now there is to be a little corner devoted to the things of interest to the women who are engaged in various phases of work in the industry.

Probably the most outstanding and interesting field for the women at the present time is the home economics or home service work. This is becoming quite important now, and it certainly is very instructive and interesting at the same time.

For about three years Kelvinator has had a home service department, but it was only last year that we have really gone into the matter in a rather intensive way. October 1, 1929, the "Kelvin Kitchen" was formally opened and has proved to be one of the most talked of corners in our organization.

In the Kelvin Kitchen the recipes for the new recipe book were tested. Every recipe published in any Kelvinator literature is first tried and tested. This is most important, because considerable controversy may arise over a recipe that does not freeze, if we say it will. In addition to our regular recipe books, of which we publish two sizes, we also publish from this department "Kelvinator Cookery"—which is a four-page pamphlet which appears each month. This pamphlet is seasonal, or, in other words, covers recipes, menus and suggestions for uses of Kelvinator applicable to each month.

"Kelvinator Cookery" is designed to go to the Kelvinator owner and is mailed her each month by the dealer and distributor. This lets her have the latest information on using her Kelvinator, and also acts as a good-will builder.

In addition to these publications, experiments and tests are constantly being made of new features—as well as new articles for use in connection with refrigerators which are constantly being put on the market. Frequently we are asked to pass an opinion on different types of refrigerator dishes, food containers, etc., and before we make any comments, these articles are first tested in the Kelvin Kitchen.

We means we conduct actual cooking school demonstrations under the auspices of the dealers or distributors to which homemakers are invited. Sometimes these are general public classes, and again they may be held before the members of the club or civic organization. In the latter case the members of the club are mailed invitations, and the classes are not advertised in the papers. Where the classes are open to the general public they are advertised in the papers as such.

In these classes, refrigeration in general is covered, the necessity for refrigeration, proper preservation of food, proper placement of food in the refrigerator, and such points are brought out. In addition the outstanding features of our product are stressed, and actual salads and desserts are made to show how easily they can be prepared.

A great deal of educational work has been done with the women who are doing home service work for distributors, dealers and utility companies. An intensive course in refrigeration was held in the Kelvin Kitchen early in the year, which was attended by a large number of home service workers from the United States and Canada. During this school every phase of refrigeration, including history, principles, etc., was covered, in order that these women might be able to tell a complete story to their customers. Several days were devoted to actual demonstration and experimental work while they were in Detroit, in order that they might have the experience and know just how various types of frozen food recipes were formulated.

Wherever we have been, we have met with hearty co-operation from the home service women, and deep interest from women attending classes. I am sure that there are many women interested in different phases of refrigeration work, and know that they will all be interested in seeing items about what others are doing. For us here in the Kelvin Kitchen, we will look forward always to the "women's corner" in the NEWS and hope that it will soon be more than just a corner.

TEMPRITE COOLERS FOR MONTGOMERY HOSPITAL

Montgomery, Ala.—The State of Alabama T. B. Hospital at Montgomery is soon to be equipped with Temprite water coolers. A multiple installation of Temprite model 35-W cooling units is called for. These Temprite coolers will be installed remote, allowing the institution to use the drinking fixtures already installed.

NEW YORK FARMS GET KELVINATORS

Poughkeepsie, N. Y.—The John Van Benschoten, Inc., 14 Catherine Street, has installed Kelvinator equipment at Emmadine Farms, Inc., and the Snug Harbor farm. These are two of the largest farms in this vicinity.

ENTHUSIASTIC

"Our enthusiasm for the Refrigerated Food Section is insufficiently expressed in the postal card which we sent out to the trade. . . You are doing an admirable job in this great new field, and we congratulate you."—Carl F. Kolbe.

FIELD CONTACTS

Spread Refrigeration Knowledge

By Marion F. Sawyer
Home Economist, Kelvinator Corporation

IT is indeed an inspiration and a pleasure to travel through the country in the interests of electric refrigeration, and to come in direct contact with the housewives of the nation, the "ultimate consumers" of our product. After a fall and winter spent in the Kelvin Kitchen doing intensive research on the subject of household refrigeration in general, and the preparation and preservation of frozen foods in particular; after contacting the home service women of our outlet organizations during the refrigeration schools held this winter in the Kelvin Kitchen; it takes this direct contact with the consumer to complete the picture. Only through this direct personal contact can the needs and interests of the housewife be fully realized and understood, and it is decidedly necessary for research workers and experimentalists for food and equipment companies to come out of their shells occasionally in order that they may know and see just how their work is being received and used.

Economists on the Road

In the last three months representatives of the Kelvinator Home Economics department have traveled to almost all parts of the United States, except the West Coast. The work has been varied In some places formal lecture-demonstrations have been given; in others continuous demonstrations or "Kelvinator Teas" have been the order of the day. At still other times the work has been with the Home Economics experts of utility companies, and regional refrigeration classes, lasting from three days to a week, have been conducted in some localities.

All these various types of work have met with a decidedly satisfactory response. Demonstration halls have been crowded, not only in the south, where sultry summer weather had already arrived, but also in such northern cities as Minneapolis, Minnesota, and Portland, Maine, while still in the icy grasp of winter. Kelvinator teas have been patronized by an eager and intelligent stream of women. One of the most gratifying features of both these types of meetings has been the interest evinced by the housewives, and their eager questions, and general participation in the open discussions following the lectures and demonstrations.

Miss Marion F. Sawyer

Contact Helps Solve Problems

It is through such meetings as this that the specific problems facing the women in different sections of the country can be met and solved. Of course, many of the questions brought up had already been dealt with in the experimental work undertaken during the winter; other problems, peculiar to certain localities have suggested avenues of research for the future.

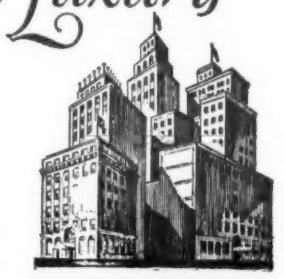
Contact with women in the Carolinas, and with women in Wisconsin, with homemakers of New York and Arkansas, enables the Home Economist accurately to picture their living conditions, to understand the types of foods and the requirements of the different sections, so that she may prepare for them material which will anticipate and meet all their needs.

And this, of course, is the aim of the research worker and experimentalist. Nothing can possibly be more gratifying than to see material worked over and prepared in Detroit in the winter, filling the needs of women in Tennessee in the summer.

Enjoy the Luxury of a

PARLOR BEDROOM & BATH

at about the cost of an ordinary Hotel Room



WASHINGTON ~ D. C.
CAVALIER HOTEL
3500 14TH Street
NEW AMSTERDAM HOTEL
2701 14TH Street

PHILADELPHIA
CHATHAM HOTEL
Walnut Street at 20TH

MADDUX HOTELS

PARLOR ~ BEDROOM & BATH ~ $5.00 TO $7.00
Single Room with Bath $3.00 to $4.00
Double Room with Bath $4.00 to $6.00
Less by Week or Month

POPULAR

Salads for Springtime Menu

BY MRS. PHYLLIS K. DUNNING
Home Service Department, The Society for Electrical Development, Inc.

IN storing all salad greens, remember that they have a high moisture content, and that an electric refrigerator is just a little bit inclined to abstract this moisture and deposit it on the outside of the freezing unit. To prevent this, keep your salad materials closely covered. Wash them and pick them over as soon as they come from the market, and keep them in the refrigerator until serving time. Your salad dressings, too, should stay in the refrigerator until they are needed, making the distance from refrigerator to dining table in one jump. Remember these things and you will have no trouble in inspiring in yourself and your family that salad craving which is typical of all healthy, well balanced citizens in this the spring of the year.

Chiffonade Salad

½ pound of endive cut into 1 inch pieces
1 small head of lettuce shredded
¼ cup chopped boiled beets
1 minced onion
½ green pepper
12 stuffed olives
1 hard-cooked egg, chopped
¼ package of snappy cheese
French dressing

Mix together all the ingredients except the cheese, the beets and the French dressing and put in covered container in electric refrigerator. At serving time add the beets and the cheese, crumbled into small pieces. Add the dressing at the table, tossing the salad lightly to coat the greens well, and serve generously.

Fruit Salad

1 fresh pineapple, cut into pieces
1 small box strawberries, left whole
2 bananas, sliced
2 oranges, sliced
1 cup white grapes, skinned and seeded
1 apple, cut into dice
3 preserved figs, cut into pieces

Mix the fruits all together and place in covered container in electric refrigerator to chill thoroughly. Serve with the following dressing: Whip ½ cup of heavy cream and into it fold ½ cup mayonnaise, 2 teaspoons of lemon juice and 2 tablespoons of honey. Blend well and pass with the salad. This salad takes the place of dessert.

Vegetable Salad

finely chopped cabbage
quartered tomatoes
cooked kidney beans
cooked lima beans
cooked green peas
chopped boiled beets
asparagus tips
cooked sliced carrots
minced onion
minced green pepper
lettuce
French dressing, mayonnaise or boiled dressing

It is not necessary to use all the vegetables at one time. Use what you have on hand, with perhaps a small can or two of vegetables to give variety. We use about equal quantities of each vegetable, except the onion and green pepper, which are added for seasoning only. Mix all together well, except the beets, and store in covered container in electric refrigerator to chill thoroughly. The beets must not be added until last, for otherwise they will dye the whole salad an unattractive shade of red. Just before serving add the beets and pile in nests of lettuce leaves for individual servings. Pass the preferred dressing with the salad.

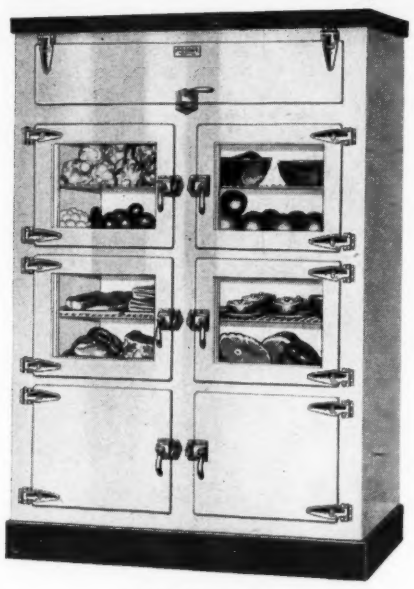
Spring Salad

peeled chilled tomatoes
celery, chopped
minced onion
sliced radishes
sliced cucumbers
French dressing
lettuce
mayonnaise

Mix together the celery, onion, radishes and cucumbers, and chill thoroughly in a covered container in the electric refrigerator. Peel the tomatoes, and chill thoroughly. At serving time scoop out the centers of the tomatoes (use the centers for making tomato soup or in scalloped tomatoes). Season the celery mixture with French dressing and fill the cavities in the tomatoes with the mixture.

The Imitation Food Products Co.
(Branch of The Artistic Production Co.)
107 Lawrence Street
Brooklyn, N. Y.
Ask for our catalog of January 1, 1930. Direct sales only. "Indispensable with refrigerator display."

McCray Announces New Models for Food Stores



Model P-424

SIX new commercial refrigerators have been added to the line offered by the McCray Refrigerator Sales Corporation, Kendallville, Ind. Four of these models are built exclusively for machine refrigeration, with the cooling chamber overhead.

The two refrigerators, Models P-424 and P-425, pictured on this page are especially adapted for restaurant and food store trade. They have exteriors of white porcelain with black porcelain base and cornice. Interiors are also of white porcelain. The smaller of these two has 45.62 cu. ft. storage capacity, while the larger one has a capacity totaling 70.33 cu. ft.

Models 422 and 423 are designed for installation in food stores, while models 426 and 432 are for restaurants and hotels.

All of the new models are heavily insulated and service doors are conveniently arranged to expedite the handling of products. Display doors are equipped with three thicknesses of glass. The new models are now available for shipment.

Model P-425

This Tremendous Market for Commercial Refrigeration

MEAT MARKETS
GROCERY STORES
HOTELS
RESTAURANTS
CAFETERIAS
ICE CREAM DEALERS
DAIRIES
BAKERIES
DRUG STORES
HOSPITALS
FLORISTS
CONFECTIONERS

It pays to Sell

"more Refrigeration from the same amount of Current"

THE Commercial market for electric refrigeration promises almost unlimited opportunities for sales and profits. Men who handle Servel have an unbeatable argument in selling this profitable field.

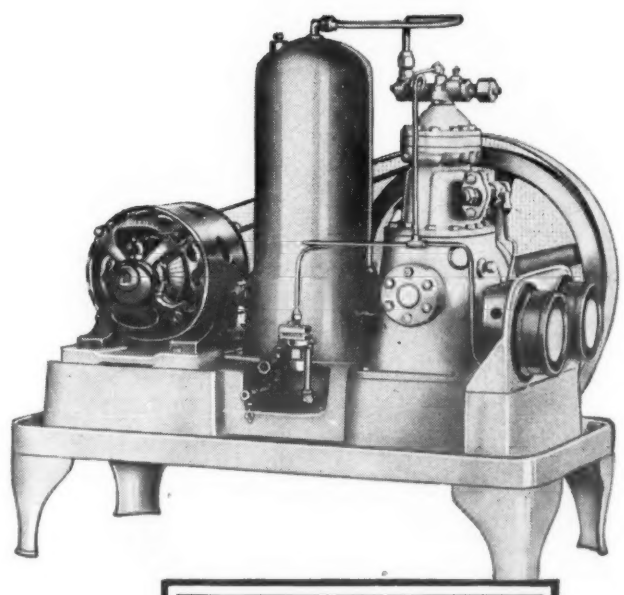
Commercial installations are bought because of the big operating economies as compared with old-fashioned icing. You can definitely prove that Servel assures the maximum saving. For Servel machines deliver more refrigeration from a given amount of current.

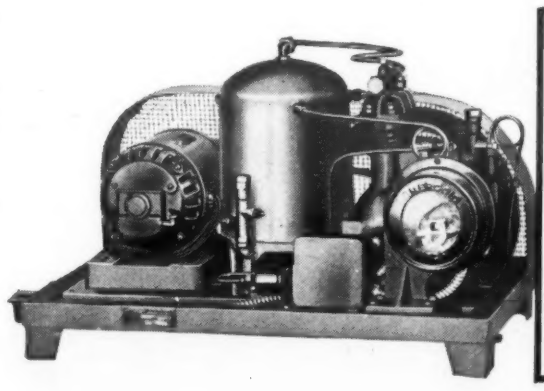
No merchant, no business man cares to disregard this vitally important factor. Add to this argument, the sturdy strength, the tested reliability of Servel with its ability to stand up through years of the hardest service and you have sales points no competitor can beat.

Now is the time to cash in on the tremendous profit possibilities of this almost untouched market.

The beautiful Servel Domestic Series brings you another steady succession of profitable sales . . . fast-freezing refrigerators, entirely automatic, and equipped with every new convenience.

If you are ready to take full advantage of the opportunities Servel presents, write for full information on the Servel Franchise . . . learn whether your territory is still available.





The most complete line of commercial machines on the market today, ranging in freezing capacities from 75 to 1200 pounds ice equivalents.

SERVEL SALES, INC. SERVEL EVANSVILLE, INDIANA

MILWAUKEE STRONG FOR REFRIGERATION

Milwaukee, Wis.—Of the 47 per cent of Milwaukee homes which have refrigeration, 44½ per cent use ice, according to statistics gathered by a local ice company in connection with Ice Refrigerator Week, which was recently held here. It is said that more than half the people will be using ice refrigeration before the summer is over. This, supplemented with chemical refrigeration, will give Milwaukee one of the highest percentages for the use of domestic refrigeration of any city in the country.

Distributors of mechanical units have a fertile field here, if only 2½ per cent of Milwaukee homes use this type of refrigeration. Dealers state that business is rushing.

DETROIT'S GREAT HOMELIKE HOTEL

IN THE VERY HEART OF DETROIT

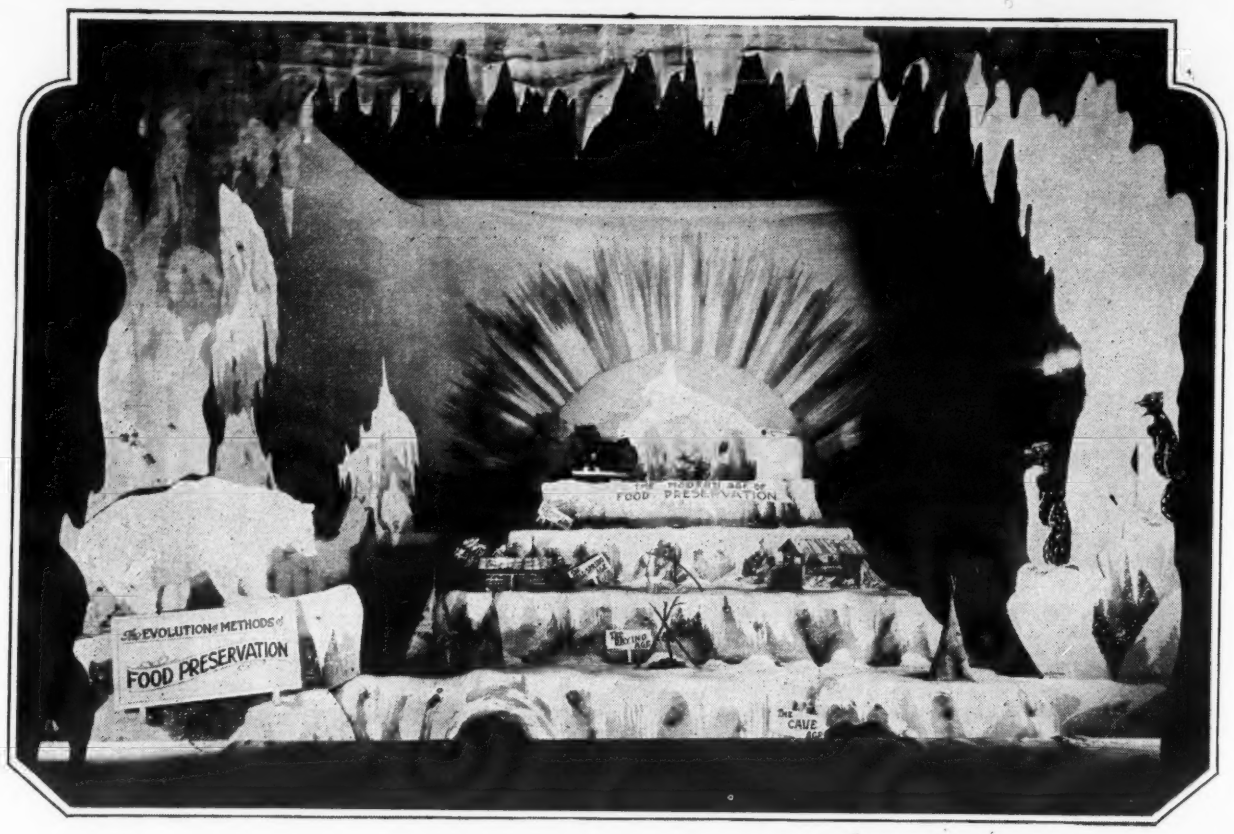
THE TULLER is the headquarters for tourists and travelers. Delightfully furnished, homelike atmosphere. Abundance of air and sunshine, large, spacious lobbies and lounging rooms. Famous for our restaurants.

800
ROOMS WITH BATH
$2.50 and up

HOTEL TULLER
Facing Grand Circus Park
HAROLD A. SAGE, Manager
LATZ INC.

Window display in Public Service building depicts evolution of refrigeration.

New Orleans Interested in Food Preservation



New Orleans, La.—Approximately 38,661 persons attended the first Food Preservation Show held in this city. The many exhibits which put over the idea of proper all year 'round refrigeration were in the large showrooms of the New Orleans Public Service, Inc. Extending over a period of six days, April 28-May 3, the daily attendance averaged better than six thousand persons.

All interests, including electric and gas automatic refrigeration distributors, together with the ice manufacturers, cooperated in putting on the exhibition. It has been arranged whereby during succeeding months, each one of the participants will be allowed one month on utility's sales floor to display merchandise. The order in which the companies appear has been decided by lot.

The purpose of the exhibition was to show the public new ways of keeping foods fresh and wholesome, and to teach the value, both for the sake of health and of economy, of correctly preserving foods through refrigeration.

The entire first floor of the Public Service building was given over to seven large exhibits which comprised the show. The elaborate decorations gave the showrooms the tropical garden effect. Exhibits were arranged by the following: Frigidaire; S. B. Stewart, Trupar; Electrical Supply Company, Kelvinator; A. Baldwin & Company, Inc., Electrolux; Edward N. Eberling & Company, Inc., Copeland; Woodward-Wight & Company, General Electric and the New Orleans Ice Manufacturers' Exchange.

Interest in the show was keyed to a high pitch by the New Orleans Food Preservation Association through the use of large advertising space in the local papers. Advertising showed the value of proper refrigeration and invited the citizens of the southern city to visit the show and see the "spring fashions in refrigeration." A special section was devoted to the show in the *Times Picayune* on April 29, in which the dealers and distributors placed large amounts of advertising. Columns of editorial space in this section were used to describe the various makes of refrigerators which were on display at the show.

Of special interest to housekeepers was the cooking school which was held each afternoon and night in the auditorium on the eighth floor of the Public Service building. This school was under the direction of Mrs. Frances Y. Kline, of the General Foods Corporation, assisted by Miss Rosa Michaelis, of New Orleans, director of dietetics for the New Orleans Food Preservation Association.

Attendance prizes were given away each day of the show. The grand prize was an electric refrigerator.

Ten-minute addresses dealing with food preservation were broadcast each morning and afternoon during the show.

W. E. Clement, commercial manager of New Orleans Public Service, Inc., stated that "He feels that not only has the show stimulated sales, but results from the efforts will be cumulative and noticed for sometime.

JOINS GALLOWAY STAFF IN NEW ORLEANS

Shreveport, La.—M. R. Harrelson, formerly supervisor of the sales department of the Automatic Refrigeration Co., Inc., of Shreveport, Frigidaire distributors, has resigned his position with this company and has become associated with the W. P. Galloway Company of New Orleans.

Mr. Harrelson was succeeded as supervisor by H. M. Brouilette, of the sales department of the Automatic Refrigeration Co., Inc.

HOT WEATHER

Recipes Suggested by Frigidaire Home Economists

Dayton, Ohio.—With the coming of warm evenings, Frigidaire Corporation is renewing its efforts at merchandising along the frozen food line. In advertising, sales promotion and other methods of creating public opinion, Frigidaire is creating a desire among its users and prospects for cold items on the dinner menu, parties and other functions.

Following are just a few of the new recipes issued by the Frigidaire Home Economics department, which may be included as major items on the menu or as appetizers:

Fruit and Vegetable Salad

The ingredients are ½ cup celery, cut fine; ½ cup raw carrots, grated; 1 cup shredded pineapple, 1 package of lemon jello and 1½ cups of boiling water.

Drain the pineapple and place in the refrigerator to keep cool. Remove celery and carrots from the Frigidaire hydrator, if one is available. Chop the celery and grate the carrots; then combine them.

Add boiling water to the jello and stir until it is dissolved. When properly cooled add the ingredients and place in individual molds. Place in the refrigerator to chill or until the mixture has jellied.

Serve the individual molds on crisp lettuce with creamed mayonnaise. Much time can be saved by pouring the mixture into a freezing tray and allowing it to chill until it is completely set, but not frozen. Then block out in squares and serve as suggested.

Waldorf Salad

The ingredients are 2 cups diced apples, 1 cup diced celery, lettuce, 1 tablespoon lemon juice, ½ cup walnut meats, broken, and ¾ cup mayonnaise.

Add lemon juice to diced apples to prevent them from turning dark. Combine all ingredients, adding the mayonnaise and mixing well with fork. Salads of this kind should always be prepared in a large mixing bowl.

Hot weather and cold foods go hand in hand, and as the warm months seem to have arrived, many homekeepers are giving thought to the preparation of menus which feature cold foods, particularly salads. People are eating more and more salads, salads that are nutritious as well as pleasing to the taste.

Chicken Salad—The ingredients are two cups chicken meat, diced; one-half cup stuffed olives, chopped; one cup celery, chopped; two-thirds cup lettuce, broken in small parts; one-half cup cooked cream mayonnaise, and one-half teaspoon salt.

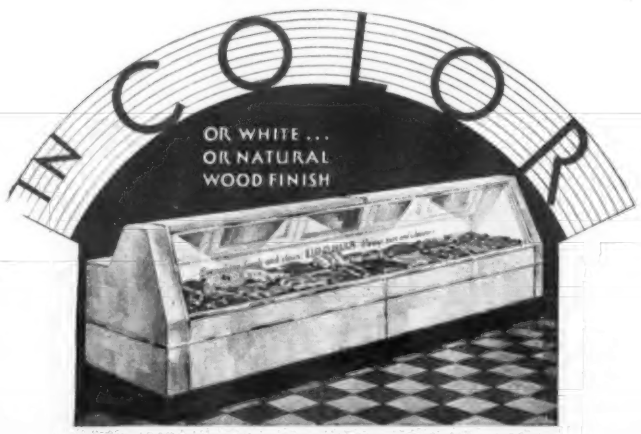
Place meat, olives and celery in mixing bowl, add mayonnaise and mix well with fork. Serve on crisp lettuce or crisp endive, garnishing the salad with several stuffed olives.

Crab Meat Salad No. 1—Ingredients are one small can crab meat, six hard-boiled eggs, one-half cup mayonnaise, parsley and lettuce.

Cut hard-boiled eggs lengthwise and remove yolk. Fill whites with crab meat chopped fine and mixed with mayonnaise. Chop yolks and mix with finely chopped parsley. Arrange crisp lettuce on individual plates. Arrange stuffed eggs and garnish by sprinkling stuffed eggs with chopped yolks and parsley.

A LIG-O-NIER IS HONEST VALUE

Ligonier Refrigerators are honest value. Expert craftsmen build them for a business lifetime of satisfactory service. Ligonier counters, coolers, and grocery boxes are finely made and look it. Lines evidence skill and taste. Finish is of piano-like lustre. ' ' ' Only the very finest quality can give lasting satisfaction and proper refrigeration results through the years. Inferior materials, construction, and workmanship would tarnish the proud name Ligonier has raised. ' ' ' Completeness and attention to the often unnoticed little things reveal the careful scrutiny that goes into Ligonier manufacturing. There are no rough edges, no crude mortising, no bad joints, no missing parts. Constant checking, constant inspection guarantee this. Everything fits. There is no covering up of carelessness in construction or labor. ' ' ' Ligonier manufacturing ideals are not a figment of the imagination—not a sales argument discovered with difficulty but an integral part of the company ingrained in its very existence. ' ' ' Food merchants get the most for their dollar in Ligonier Refrigerators. Write for catalog and complete information.

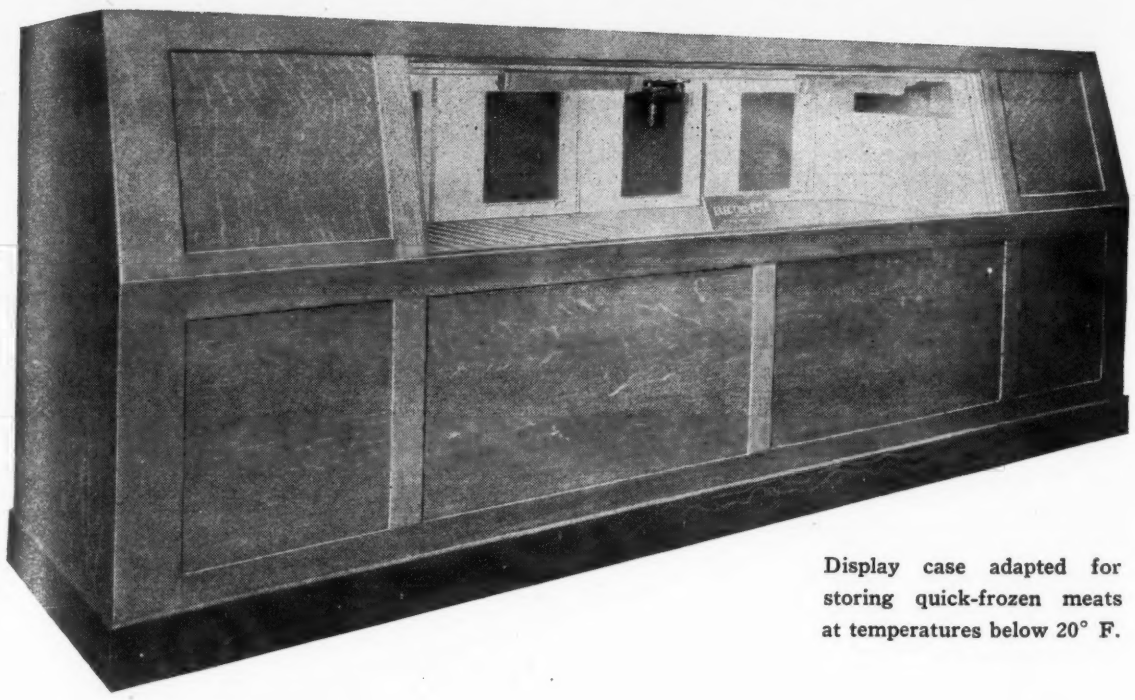


LIG-O-NIER
REFRIGERATOR COMPANY
A Division of
ALLIED STORE ASU UTILITIES CO.
LIGONIER, INDIANA
Agencies In All Principal Cities

Crowds See 1930 Styles in Refrigeration

One of the busy moments at New Orleans' first Food Preservation Show.

Electro-Kold Develops Defrosting Arrangement



Display case adapted for storing quick-frozen meats at temperatures below 20° F.

THE Electro-Kold Corporation, Spokane, Wash., has been conducting experimental work on a special type of display case suitable for maintaining temperatures below 20° F. so that frozen products could be maintained indefinitely.

The case pictured on this page has the ordinary construction for display cases, except that it is somewhat heavier insulated, having 5 inches of insulation in the bottom and ends and 4 inches in the top, front and back walls and doors. Triple pane plate glass is used for the front display with bakelite top and slop-board. The exterior finish is oak, and special lighting fixtures are installed to illuminate the interior.

Specific developments which the Electro-Kold Corporation has contributed to this case, on which patents are now pending, are its special method of defrosting. Electro-Kold has found the defrosting a serious problem in ordinary frozen products cases. Due to the temperatures below freezing, the coils cannot be defrosted without bringing the temperature above freezing inside the case, with the resultant necessity of removing the frozen products from the case and endangering their spoiling.

Two EC-47 fin coils are used in the Electro-Kold case, one being installed in each end bunker. These bunkers are so constructed that stoppers may be put in the air flues by a simple valve arrangement, one coil cut off from refrigerating, leaving the other coil to maintain the necessary below freezing temperatures. A special door in the rear of the case is then opened so that room temperatures are admitted to the end bunker occupied by the coil which is being defrosted. Defrosting is thereby permitted in less than one hour's time, and as soon as this coil has been placed back in operation, the other coil is defrosted. This defrosting may be carried on at alternate weeks, if so desired by the user.

"In our opinion," C. S. Matthews, sales manager for Electro-Kold, states, "this is the only case on the market with this special provision for defrosting, and we believe it is of extreme necessity for frozen products cases. This saves unlimited time when defrosting takes place, by not having to remove the food and store it elsewhere during this period.

A special circulating fan is installed in the top of the display part of the case which is so controlled thermostatically that forced circulation is started at any time the upper portion of the case reaches a temperature higher than 22° F. Electro-Kold engineers have found that the arrangement of the produce sometimes interferes with the air circulation, and frozen products cases must always be safeguarded against such rises in temperatures, which might come near the melting point. The action of the fan does not dehydrate frozen meats and always assures even temperatures throughout the case.

Deliveries can now be made on this type of case and several have already been placed in operation in spite of the fact that the frozen products merchandising program is still in its pioneering stage on the Pacific Coast.

These cases are made up in nine, eleven and thirteen-foot lengths and are refrigerated by the Electro-Kold type AA twin cylinder one h. p. air-cooled compressor unit.

INVESTIGATIONS

Paved Way For Swift & Company

(*Concluded from Page 6, Column 5*)

temperature and taking a longer period of time for the freezing.

After making numerous inspections of the fancy meats that were frozen in the lower temperatures, we noticed not only did the package present a better appearance, as far as retaining the shape of the package as packed, we also noticed an improvement in the color of the product.

This prompted us to carry on more investigations, which later proved another very important thing had happened, and that was that the fancy meats remained in a sweet condition longer after having been quickly frozen. We made a great many tests to prove further the value of quick freezing as compared with slow, so that with our past experience on fancy meats we found, we we started to package fresh meats, that quick freezing was very necessary.

Under the old method of freezing, the ice crystals which were formed in the meat were large and tended to break down the meat cells; but under the new method of freezing, we found that the ice crystals were much smaller. This makes a big difference, because the meat cells don't break down, and after the meat is thawed or after it is cooked, there is no difference between it and the product which has not been frozen.

We also think that there is marked improvement in the color of meats that are frozen quickly as compared to slow freezing.

Lack of Cutting Machinery

After carrying on a large number of tests on freezing of meats for packaging, to determine the most suitable method, the next problem that was tackled was to find some mechanical means of making these retail cuts from carcasses of beef, lamb, and veal and such cuts as pork loins, livers, etc. In developing a method whereby retail cuts can be produced at a minimum cost, the work being done by mechanical means, was the biggest problem that we have found in the operating end of producing packaged meats.

There were no machines available for this work when we started the job of packaging fresh meats. There were saws on the market for making retail cuts by sawing. There were also slicing machines for bacon, cooked hams, slicing dried beef, etc.; but these machines are not suitable for producing fresh retail meat cuts; so our big job was to develop machinery to do this work; and we have had fairly good success in doing so.

We have a machine at the present time that produces 600 pork chops per minute, each one cut exactly the same thickness, with practically no shattering of the bone. We think it will be possible even to develop machines that will have far larger capacities in the future.

Another problem in the handling of identifiable packaged fresh meat cuts is distribution. It is necessary that they be taken from extreme low temperature storages and transferred to the different parts of the country with equipment that will keep them in a frozen condition. Also, it will be necessary that there be low temperature freezer storages located in different parts of the country to receive and store these packaged meats for a few days until final distribution is made to the dealers.

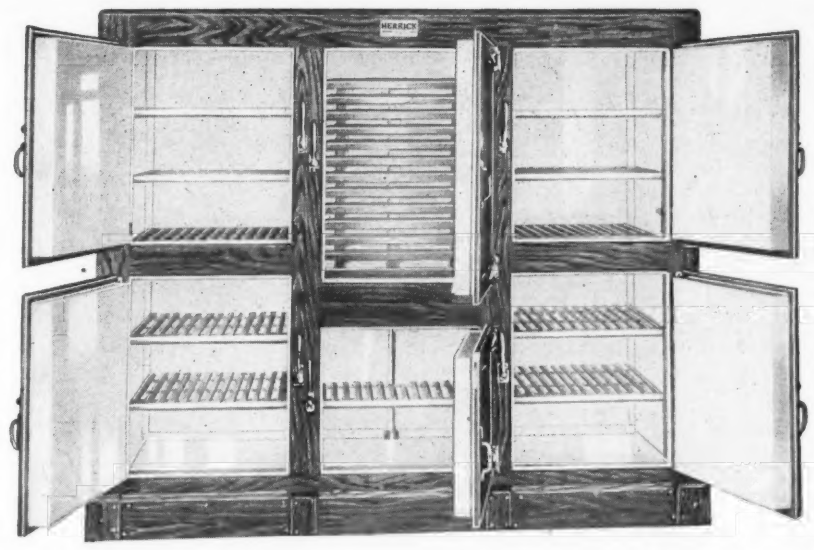
For this work we have some 7,000 refrigerated cars in which we feel we will be able to deliver these packaged meats in a frozen condition to our 500 branch houses located in different parts of the United States, where low temperature freezers will be available.

In addition to the 500 branch houses which we operate, we cover some 7,000 cities, towns and villages with a car route system, where we furnish delivery service, with our refrigerated cars, to these points, from one to three times a week.

I feel certain that the time also is not far distant when refrigerated trucks will carry this meat, still under a constant low temperature, direct to the door of the retail dealer.

Of course, one big advantage of the identifiable packaged meats to the consumer is that for the first time the consumer has a guarantee of quality. No meat packer who has spent fifty years or more in building up a brand name will attach that brand name to a product unless it is up to the standard of the other meats carrying the brand. No man or no woman who is not expert in the meat packing business can know, except very generally, a piece of good meat from a piece of poor meat, but with an identifiable package bearing the brand of a recognized packer, the buyer has an absolute guarantee of quality.

an irresistible combination



HERRICK Circulation-Triplex Insulation *plus* Mechanical Refrigeration

For many years, "Our Chef" has been chosen for hotel, restaurant and cafe kitchens. To offer it now, in conjunction with mechanical refrigeration, is to capitalize on the good will the HERRICK name has enjoyed for a third of a century.

The HERRICK system of air circulation works well with a mechanical unit. It keeps the cold air **moving,** allows no interchange of odors or flavors, keeps spoilage at a minimum. Outside and inside construction is of natural heat resisting materials—in between is extra thick HERRICK insulation—one of the best insulating materials known.

Arrangements of chambers, shelves and doors is for the convenience of restaurant use.

Another model, the HERRICK Full Vision Case, for mechanical refrigeration exclusively, is one of the most popular display models on the market.

Write for catalog of HERRICK Commercial models.

HERRICK REFRIGERATOR COMPANY
1007 Water Street, Waterloo, Iowa
HERRICK
THE ARISTOCRAT OF REFRIGERATORS

SUPER
AUTOMATIC OIL HEATOR

The Same People

who have food to keep cool have a house to keep warm. You might as well earn both profits.

The SUPER Automatic Oil Heator offers successful merchandisers of electric refrigerators an opportunity for double profits.

THE SUPER OIL HEATOR CO.
PAWTUCKET, RHODE ISLAND

SERVEL DEALER EQUIPS SOLDIERS' HOME

St. James, Mo.—Tim Birmingham, Servel dealer, has just secured an order for the installation of Servel equipment in the Soldiers' Home here. This order includes **dairy milk cooling equipment,** large food storage kitchen refrigerator, and a domestic refrigerator to be installed in the home of Captain Hall, superintendent of the institution. Mr. Birmingham is a dealer under the E. R. Fette Co., Servel distributor at St. Louis.

RECO
of Course!

"The Toughest and Cleanest Cabinet ever built for the Dairy"

Messrs. Fette and Birmingham installed Reco electric milk cooling cabinet knowing that its "Boiler Steel" exterior and copper steel lining, together with its heavy steel protecting rack and efficient tubing arrangement, would meet the exacting requirements of an installation of this nature.

Maybe Reco can help *YOU* build good will. Write for construction details and prices.

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